The Role of Strategic Partnerships in Scaling Delaware Pathways
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This case study is part of a new series that the Pathways to Prosperity Network is releasing in 2017 and 2018. The series will spotlight state and regional members who have made impressive progress toward building high-quality college and career pathways for all students. Visit http://www.jff.org/pathwaystoprosperity to stay updated about the series.

ABOUT THE AUTHOR

Robert Rothman is a senior editor at the National Center on Education and the Economy and a consultant to several education organizations. A nationally known education writer, he is the author of four books and numerous articles on education policy.
**JOBS FOR THE FUTURE**

**About Jobs for the Future**

Jobs for the Future (JFF) is a national nonprofit that builds educational and economic opportunity for underserved populations in the United States. JFF develops innovative programs and public policies that increase college readiness and career success and build a more highly skilled, competitive workforce. With 35 years of experience, JFF is a recognized national leader in bridging education and work to increase economic mobility and strengthen our economy. Learn more at [www.jff.org](http://www.jff.org).

**PATHWAYS TO PROSPERITY**

**About Pathways to Prosperity**

Jobs for the Future's Pathways to Prosperity initiative seeks to ensure that many more young people complete high school and attain postsecondary credentials with value in the labor market. The Pathways to Prosperity Network is a collaboration of states and regions, Jobs for the Future, and the Harvard Graduate School of Education. Each state and regional member is engaging cross-sector stakeholders in building a system of grades 9-14+ career pathways, combining high school and community college, that launches young people into initial careers while leaving open the prospect of further education.

**HARVARD GRADUATE SCHOOL OF EDUCATION**

**About the Harvard Graduate School of Education**

The Harvard Graduate School of Education (HGSE) is dedicated to improving lives and expanding opportunities through the comprehensive study and effective practice of education. Through master’s degree, doctoral degree, and professional education programs, HGSE cultivates innovative leaders and entrepreneurs, explores the most important questions in education, and shares exciting ideas and best practices with the world. For more information, visit [www.gse.harvard.edu/about](http://www.gse.harvard.edu/about).
Andrew Flynn had long dreamed of working as an engineer. As a high school junior, his dream began to come true.

Andrew enrolled in an advanced manufacturing career pathway program at his school, William Penn High School in New Castle, Delaware. Under the program, he took classes in technology and engineering at Delaware Technical Community College (Delaware Tech), which used state-of-the-art equipment and had teachers with experience in the industry. He then had an opportunity to work the summer before his senior year at the Kuehne Company, a chemical manufacturer. A plant manager at Kuehne, Alan Rogers, was impressed with Andrew’s work: “He will be an asset to a company one day.”

For Andrew, the program gave him a better sense of his future. He is continuing his education to become an electrical engineer and knows he will be prepared for his career when he graduates: “I know what the competition is like and what I need to do to succeed.”

Andrew’s classmate Joe Zecca is on a different trajectory. He too went through the advanced manufacturing pathway and worked in a company before his senior year. By the time he graduated, though, he wanted to go into the workforce. Fortunately, he had several options with three companies who wanted to hire him. He chose Astra Zeneca, the pharmaceutical company, because he liked the range of equipment they had and the opportunities that were available. There was one catch: Astra Zeneca did not have a job opening, but the company hired him as a consultant until one opened. “They really wanted me,” Joe says.

Andrew and Joe are two of nearly 9,000 Delaware students—and counting—who have benefited from a statewide initiative designed to provide college and career preparation for Delaware youth. Under the program, students who enroll develop needed skills, get real work experience, and earn certificates that qualify them for employment when they graduate. At the same time, participating businesses get a steady supply of skilled workers who are job-ready.

“The more we satisfy skill needs, the better off the state will be, and the better off individuals will be,” said former Governor Jack Markell, who launched the initiative in 2014. “We want people to stay here. And the more people stay here, the more employers want to stay here. It’s a virtuous circle.”

Governor Markell noted that the initiative represents a strong and diverse partnership that includes the K-12 system, businesses, higher education, and community agencies and organizations. Although Delaware is a small state, and many of the partners know one another and have worked together in the past, the partners have also worked hard to create an infrastructure that will remain in place and meet its goals for students and for employers.

The goals are ambitious. Governor Markell pledged to increase the proportion of Delaware residents with college degrees or postsecondary credentials to 65 percent (up from 40 percent) by 2025, and to enroll half of all Delaware high school students in career pathways by 2019.

To be sure, the initiative faces challenges in meeting those targets. For one thing, it has been unable to secure dedicated funding from the state, which has faced budget deficits over the past few years. But Governor Markell believes that its early success bodes well for the future.

“The fact that we were able to grow from 27 [students in the initial cohort] to nearly 9,000 in three years is a pretty good indication we have been able to move forward,” he said.
A CHANGING LABOR MARKET

As with most places, Delaware’s economy has undergone significant changes over the past few decades. These transformations have had profound effects on the job market, creating a need for individuals with higher levels of skills than ever before.

Traditionally, Delaware’s economy rested on what local residents call “the three Cs”: credit cards, chemicals, and chickens. These industries remain the backbone of the state’s economy, but they are changing.

Financial services have been a key element in Delaware’s economy since 1981, when the state legislature passed the Financial Center Development Act. The legislation provided tax incentives for financial services companies to locate in the state and removed usury caps, allowing the companies to charge market-based interest rates. In the years since then, many of the world’s largest financial firms, such as Barclay’s, Capital One, Citibank, and Wells Fargo, have put in place major operations in the state.

The chemical industry in Delaware is largely synonymous with DuPont, one of the largest chemical companies in the world and a Delaware presence for more than 200 years. But the industry also includes a number of smaller firms and has expanded to include pharmaceuticals, plastics, and other synthetic products.

Chickens are a symbol for the state’s large agricultural industry, which dominates the southern part of the state. Delaware ranks first nationally in the dollar value of agricultural products per farm, according to the U.S. Department of Agriculture, and by far the largest revenue producers are broilers and roasters.

Technology and globalization have transformed these and other industries. For example, much of the work in financial services is technology-related, such as the development of online platforms, rather than call center responsibilities. Similarly, agricultural businesses are increasingly moving to specialized foods and processing, which require advanced manufacturing skills.

The Great Recession also transformed the state’s economy and job market. In 2009, the last two automobile manufacturing plants in the northeastern United States, a Chrysler plant in Newark and a General Motors plant near Wilmington, shut down, wiping out thousands of jobs. And in 2015, DuPont announced that it was merging with Dow Chemical and splitting the combined company into three units; two of the units would be headquartered in Delaware and one in Michigan, Dow’s home. The merger resulted in the loss of 1,700 jobs in Delaware.

The result of these and other changes in the state’s economy is a skills gap. Traditional low-skilled but high-paying jobs, such as auto manufacturing and call center work, were being eliminated, while the growing areas of the economy demanded higher levels of skills. Yet while employers are looking for people to fill the higher-skilled jobs—particularly the so-called “middle-skill” jobs that require some postsecondary training but not a four-year degree—they are finding a shortage of candidates. Middle-
Skill jobs in Delaware offer an average salary of $44,960 a year, compared with low-skill jobs, which offer an average salary of $26,350 a year.

“There is no more frustrating conversation a governor could have than with an employer who wants to hire people, but can’t find people with the right skills,” Governor Markell said. “There has never been a better time to be a person with the right skills, and no worse time to be somebody without the right skills.”

State employment data illustrate the magnitude of the problem. Overall, officials estimate that Delaware will hire or replace 30 percent of its workforce by 2024. Of that total, 22 percent, or 104,267 workers, will replace those who retire. The rest, eight percent, or 39,326 workers, will come from new jobs. The total increase, 143,593, is larger than the state’s K-12 student population.³

Moreover, most of the employment will be in middle- and high-skill jobs. Middle- and high-skill employment accounts for 62 percent of all Delaware jobs and represents 69 percent of all projected growth openings through 2024. By contrast, low-skill jobs will grow more slowly. That means the state must do more to ensure that young people are qualified for the jobs that are growing.

In the past, Delaware companies could mask these skills gaps by hiring workers from nearby states like Pennsylvania, Maryland, and New Jersey. But increasingly, firms prefer to hire workers from within the state—and state officials want this as well. That way, more local residents will get jobs and remain in the state, and firms can spend less on recruiting from nearby states.
Delaware Pathways is intended to address talent supply in the state by providing young people with opportunities to develop the competencies needed for middle-skill jobs and by providing employers with ways to recruit and train a steady supply of needed workers. The goal is to create true pathways from school to career.

The idea for the initiative came from a 2011 report from the Harvard Graduate School of Education, which called for the United States to build a system that would ensure that the majority of students who do not graduate from four-year colleges have clear pathways toward secure and productive careers. Noting that other high-performing nations, such as Australia and the Netherlands, have created successful systems that support youth on their passage from school to careers, the report called on educators, business leaders, and government officials to work together to create similar systems in this country: “We should begin by articulating a new social compact with America’s young people. This compact should spell out what educators, employers, and governments will do to provide pathways, and how they will support young people as they navigate them. In addition, it should clarify what we expect from young people... The compact’s overarching goal should be that by the time they reach their early 20s, every young adult will be equipped with the education and experience he or she needs to lead a successful life as an adult.”

Following the release of the report, one of its co-authors, Robert B. Schwartz, teamed up with Jobs for the Future, a Boston-based education and workforce development organization, to form a network of states interested in developing pathways systems. In the first two years after the report’s release, seven states and one metropolitan region signed up.

The group that met with the governor and planned the initiative were not strangers to one another. A decade before, Rodel convened a coalition of state leaders from the same sectors to lay out a vision for education for the state. That group continued to meet regularly, although some of the individuals have changed over the years. Thus the partnership could get going right away, without taking the time for introductions.

One of the first steps for the partners was creating a strategic plan. With such a plan, they could be clear about what they needed to do and who would be responsible for each step. The plan could also serve as a communications tool to engage the public in the initiative.
A draft of the plan was released in February 2016, at the second annual Delaware Pathways convening. The final plan laid out five broad areas of work:

**Build a comprehensive system of career preparation that aligns with the state and regional economies**

**Lead Agency/Organization:** Delaware Department of Education

Expand Delaware’s model of career preparation and continuing education to include all secondary and postsecondary partners (grades 7-14). These efforts must support a diverse group of students as they enroll in career pathways that reflect the needs of the state and regional economies. The efforts must also lead to an industry-recognized credential, certificate, or license that holds value at the professional or postsecondary level.

**Scale and sustain meaningful work-based learning experiences for students in grades 7-14**

**Lead Agency/Organization:** Delaware Technical Community College

Establish a statewide workforce intermediary. This intermediary will link educators and employers to better scale work-based learning experiences for secondary and postsecondary students. These efforts must leverage industry sectors and employer associations. In doing so, they will build the professional capacity of employers to recruit and on-board student talent as well as design work-based learning activities that enrich and advance school-based instruction.

**Integrate education and workforce development efforts and data systems**

**Lead Agency/Organization:** Delaware Department of Labor

Align the education and workforce system to create postsecondary options for all students, including the expansion of apprenticeship and support services for individuals with disabilities or other barriers to employment. These efforts will underpin a workforce data quality campaign that provides partners with the necessary information to ensure our human capital can compete in a global economy.

**Coordinate financial support for Delaware Pathways**

**Lead Agency/Organization:** United Way of Delaware and Rodel Foundation of Delaware

Engage the public, private, and philanthropic communities to garner the initial and ongoing capital necessary to implement and scale the Delaware Pathways initiative. These financial and in-kind resources will be applied to address the most pervasive issues in our education and workforce system and also ensure that partners have a shared stake in the educational outcomes of students.

**Engage employers, educators, and service providers to support Delaware Pathways**

**Lead Agency/Organization:** Delaware Workforce Development Board

Develop a communication and partnership strategy to expand visibility, facilitate public support, and brand Delaware Pathways. These efforts must build support for youth employment to ensure the next generation of Delaware’s workforce has the skills and work experience required to achieve the Delaware Promise.

The leaders of the organizations met monthly to chart progress and plan strategy. They also took the strategic plan to dozens of community organizations and events to gather feedback and support. Two issues emerged: the need to engage a broader range of community organizations, and the need to provide support for students with disabilities and those at risk. In response, the group developed plans to work with organizations such as the Boys and Girls Clubs and libraries to provide after-school services for youth, and with organizations that represent exceptional children and the state Department of Labor’s Division of Vocational Rehabilitation.

The group also took steps to formalize their governance structure. In August 2016, Governor Markell signed an executive order, which defines “Delaware Pathways” as “a collaborative workforce development partnership which
will create a fluid relationship between our public education system, post-secondary education, non-profit, and employer communities to ensure that the pathway to college and a well-paying job is accessible for every Delawarean.\textsuperscript{6}

The executive order also established a Steering Committee to: 1. Ensure the program’s sustainability and adaptation aligns to the needs of the workforce and individuals who participate; and 2. Ensure that budgetary priorities are identified and outlined in a transparent and collaborative manner. The Steering Committee consists of 14 members, including the cabinet Secretaries of Education, Labor, Economic Development, and Health and Social Services; the president of Delaware Tech; the chair of the Delaware Workforce Development Board; the president of the State Board of Education; two school system superintendents; two business representatives; and three members of community organizations. Mark Brainard, president of Delaware Tech, was appointed to chair the Steering Committee. The committee held its first meeting in October 2016.

This cross-agency structure is unusually strong. In addition to the steering committee, the working group of deputies continues to meet twice monthly, once in person and once on the phone, and work together through the day-to-day issues with Pathways. All of the members understand one another’s work and how their work contributes to the initiative.

One outcome of this collaborative effort is the integration of Delaware Pathways into a number of state programs. The Workforce Development Board has made Pathways a key element in its strategy, and the vision process led by the Rodel Foundation of Delaware includes Pathways as a key plank.
SYSTEM OF CAREER PATHWAYS

At the heart of the Pathways initiative is the pathways themselves. As the Harvard report proposed, the pathways are intended to link high school, postsecondary education, and employers into a seamless system that enables young people to develop the skills they need, gain valuable experience, and move into productive careers.

To accomplish this, the Delaware officials moved to create structures in which students as early as middle school would be able to learn about and explore career options. Then as high school sophomores or juniors, the students take courses related to careers and, concurrently, enroll in an institution of higher education for a two- or three-year career-related program of study. In the summer before their senior year and during their senior year, students would participate in a paid internship for approximately 240 hours at a work site in their chosen field. When a student graduates from high school, he or she would have a high school diploma, six to 15 college credits, an industry-recognized credential, and work experience. The student would then have the option of pursuing further postsecondary training or moving right into the workplace.

To select the pathways, state Department of Education officials worked with officials from higher education and industry to examine labor market data and identify fast-growing fields that required some postsecondary training and paid relatively high wages. These included health sciences, which is expected to grow by 15.4 percent by 2024, and information technology, which is expected to grow by 13.2 percent by that time. The three partners then developed a course of study to train for the skills necessary for entry-level employment.

“The secret to its success is the collaboration between K-12, institutions of higher education, and employers,” said Governor Markell. “Without employers playing a leading role in defining the skills that are required, it would not be successful.”

But developing the courses proved more challenging than the partners originally thought, said Mark Brainard, president of Delaware Tech. When they were putting together the advanced manufacturing pathway, educators from Delaware Tech and representatives of the manufacturing industry met to spell out the competencies needed for entry-level employment and a curriculum that would produce those outcomes. But putting the pieces together took time, he said. “I assumed that, for a sector telling people they couldn’t find employees, they could identify the competencies,” he said. “But it took four months. It involves the business community communicating with us in a way we never communicated before.”

In some cases, the business partners also helped ensure that the materials and equipment used in the courses represented the state of the art in the field—at least indirectly. In 2016-2017, for example, Delmarva Power, the leading energy company in the state, financed the creation of a career pathway in renewable energy and energy efficiency. For the renewable energy courses, the funding helped pay for kits that would be used to enable students to understand the concepts of the field. The kit
manufacturer worked with Delmarva Power to make sure they provided up-to-date information, according to Gary Stockbridge, Delmarva’s president, who is also the chair of the Delaware Business Roundtable Education Committee and the Delaware Workforce Development Board. “That entity works with the business community to make sure the kits are relevant,” he said.

The state Department of Education supports pathways development and invited school districts to apply to participate, using a competitive grant process with funds from the federal Carl D. Perkins Vocational and Technical Education Act. Those selected received seed money; the department also provided professional development for teachers. Once selected, the schools spent a year planning before implementing the pathway programs. The schools then recruited students they identified as those who might benefit from the initiative and encouraged them to enroll.

In some pathways, students take all of the career-related coursework at an institution of higher education, where they earn college credits. In other pathways, students take some courses at their high school and others at a college or university. The students earn college credits and can apply them to degree programs once they graduate from high school. For example, in the nurse assisting pathway, high schools offer courses in Fundamentals in Health Sciences, Essentials of Anatomy and Physiology, and Certified Nurse Assisting. These credits can be applied to an associate’s degree program or to programs leading to certification in allied health fields.

Asking schools to volunteer to take on the pathways means that only schools that are prepared to offer them do so. But one result of this practice is that not every school offers every pathway, noted Kim Joyce, who served as the associate vice president for academic affairs at Delaware Tech. “If you’re at Cape Henlopen High School and you want to be a nurse practitioner, you’re out of luck,” she said.

The initial pathway was in advanced manufacturing, the program that Andrew Flynn and Joe Zecca entered on their way toward their future. Some groundwork was already under way; the Delaware Manufacturing Association, in partnership with Delaware Tech, created a certificate in the field, and Delaware Tech established a dual enrollment program with one high school. For this pathway, the partners created two programs of study: manufacturing logistics technician and production technician. The manufacturing logistics technician program included four courses, taken over two years at Delaware Tech: Principles of Manufacturing; Manufacturing Quality, Safety, and Practices; Manufacturing Processes and Production; and Advanced Handling and Logistics. Initially, 40 students signed up for the pathway; after some left their schools, 27 ended up completing it in 2016.

Teachers for the courses had extensive industry experience. At one Delaware Tech campus, for example, one of the teachers in an electronics lab had worked at General Motors for 23 years.

During the 2014-2015 academic year, the state added pathways in
Allied health and computer science. Allied health included coursework in such topics as human anatomy and physiology and prepared students for careers such as respiratory therapist, nurse, physical therapist, dental hygienist, and medical lab technician. Students could earn up to nine college credits, giving them a head start on an associate's degree. In its first year, six high schools offered this pathway.

The computer science pathway included coursework in algorithm development and programming. To develop it, state officials looked at programs that were piloted in Chicago and Los Angeles and by a private organization, code.org. The program offered nine college credits.

During the 2015-2016 academic year, the state offered pathways in engineering, finance, and CISCO networking, and in 2016-2017, the state developed pathways in environmental science, teaching, certified nursing assistant, and energy. Education Department officials are particularly enthusiastic about the teaching pathway because this will enable school districts to serve as employers, as well as providers for the program, and thus model the kinds of activities they want other employers in the state to undertake. The program of study was developed in consultation with former state Teachers of the Year and teacher-preparation institutions, and will allow students to graduate with 12 to 18 college credits, a paraprofessional certificate, and work experience. Students will also take the Praxis examination, a requirement for entering teacher education. “I see this flying off the shelf,” said Luke Rhine, the director of career and technical education/STEM initiatives for the state Department of Education.

The development of the energy pathway shows how nimble the initiative has been. Delmarva Power offered the state a $750,000 grant to create the pathway in June 2016, after Delmarva's parent company, Exelon, merged with Pepco, another energy company. Company officials then worked with educators from the state Department of Education and Delaware Tech to develop the curriculum and have it in place by September. Christiana High School in Newark offered to pilot the pathway. The department also waived a requirement that schools announce courses well in advance of the summer prior to the school year.

The pathway called for three three-credit courses: Introduction to Energy Management; Excel Level I; and Society and Sustainability; along with 70 hours of workforce training in areas such as lighting and energy audits. Originally, only Society and Sustainability was scheduled to be offered at Delaware Tech, but since the high school teacher who planned to teach the Excel course was unable to do so, the course was moved to Delaware Tech. That meant, too, that Christiana High School had to arrange its schedule so students in the pathway could spend a block of time on the community college campus. The high school also had to arrange transportation for the students. (The grant paid for a bus to take students to and from the school.)

Recruiting students proved challenging, according to Cory Budischack, the chair of the energy technology department at Delaware Tech. “The most challenging aspect was finding qualified students,” he said. “Students in this county are the most disadvantaged in the state. They lack math and ELA skills. We’re working on building them up.”

In addition, since the program was announced late in the school year, many students who might have been interested in energy careers were not able to take it in the first year because they had already signed up for other coursework. Indeed, some of the students in the first year of the program said they enrolled because it offered them a chance to get college credit, not because they planned to pursue energy careers; nevertheless, they found the coursework valuable.

In its first year, the pathway did not offer work experience. But Budischack said he is considering having the pathway students join college students in the energy technology program on their internships, in which they conduct energy audits for small businesses.
In 2015-2016, five percent of Delaware high school students (1,850 students) earned credit in a pathway. The goal is to ensure 50 percent of all high school students (20,000 students) are completing pathways by 2019-2020.

Support for the Pathways

In addition to working with partners to identify pathways and develop programs of study, the state Department of Education has provided policy support to the pathways in a number of ways. For example, the department issued waivers to school districts to enable them to hire people from industry who lack teaching certification to teach the career-related courses. The department also revised the School Success Framework, its school-accountability system, to reflect school participation in pathways. Under the revision, schools report the number of students who earn early college credit, attain industry credentials, or participate in work experiences as part of the pathway programs.

Additionally, the department developed a program to help enable students who may be under-prepared to be able to take college coursework. Under the program, known as Readiness with a Purpose, students who score below certain benchmark scores in English language arts on the PSAT or SAT will receive targeted assistance. Those who are far below the benchmark scores will take the course Foundations of College English. Those who are close to the benchmark will take modular coursework based on their needs. Under an agreement with all of the state’s colleges and universities, students who successfully complete the course or the modules will be exempt from remedial classes in English language arts and can enroll in credit-bearing courses.

The program will be implemented in 2017-2018 for students in the allied health pathway, which is in place in six high schools. To Rhine, the state’s director of career and technical education/STEM initiatives, the program demonstrates the high standards that the Pathways initiative maintains for students. “This is an example of how we are clear with children about the prerequisite expectations for jobs,” he said. “If you are interested in health care, you need to know English exceptionally well.”

Rhine added that the program will benefit students and their parents by reducing the need for remedial coursework in college. Students who take remedial courses are less likely to complete their degrees, he noted. “Everybody wins,” said Rhine. “The kid wins because the likelihood of completing is substantially higher. And there’s value added for parents and kids because they are not paying for remedial coursework.”

Partners are also creating supports for students in the pathways. The United Way is taking the lead to ensure that the most disadvantaged students in the state can benefit from the initiative, according to its president and chief executive officer, Michelle Taylor. “We want to make sure there is an equity component,” she said. “We want to be sure that kids who come from high-needs communities have opportunities and can be on the way. We want to see what wraparound services are needed to better support young people.”

Local Pathways

While state officials have been working to develop pathways by engaging employers and developing courses of study, they have also been encouraging local schools that have the capacity to do so to develop their own pathways. Ultimately, the local pathways will be the main part of the system, according to Rhine. “I want to get out of the development business and into the support business,” he said.

One of the most extensive local pathways programs is in the Appoquinimink School District, a fast-growing district in the central part of the state. There, the district has organized each of its two high schools into nine “schools”: Agriculture and Natural Resources; Business and Economics; Culinary Arts and Hospitality; Education and Human Studies; Health Sciences; Language, Literature, and Human Development; Military and Civic Leadership; Performing and Design Arts; and Science, Technology, Engineering, and Math. Each of the schools includes one or more pathways; there are 24 pathways in all.

Incoming freshmen choose a pathway and take courses related to it, often beginning in ninth grade. To guide student choices, the district has hired a college and career counselor to manage an annual college and career fair and bring in adults from the business community to give guest lectures and provide opportunities for job shadowing. The counselor also gives presentations in middle schools to familiarize students and parents with high school options.
Additionally, the district provides students and parents with a course catalog that describes the pathways, including the careers the pathway prepares students for and the sequence of courses needed to complete the pathway.

Future careers in the field, according to the catalog, include applications analyst, business analyst, computer engineer, data modeler, information technology manager, software applications architect, and software engineer.

The district also has formed partnerships with the University of Delaware, Wilmington University, and Delaware Tech to enable students to take college courses while in high school and earn both high school and college credit. According to school leaders, the goal is for each pathway to have at least one dual enrollment option or one Advanced Placement course, and every pathway will provide students with the opportunity to garner work experience.

Matthew Burrows, the district’s superintendent, said the pathways program has been enormously popular in the district because it makes high school relevant to students: “It answers the age-old question—when will I use this?”

**Future Directions**

Like the district officials in Appoquinimink, state officials are working to strengthen school counseling in the middle grades, and perhaps earlier, to provide students with a greater awareness of potential careers and prepare them to enter pathways in high school. The goal is to engage students, parents, teachers, and counselors to expand students’ awareness of career options and to begin to help them match future careers with their interests.

In addition, state officials are monitoring the demographic data of students enrolled in the pathways to ensure that there is gender and racial and ethnic balance. They say that they do not want computer science pathways to be overwhelmingly male, for example. While there are not set targets for balance, they are working to ensure that student enrollment is reflective of the community the school district serves. State officials are also collecting information and sharing it with schools to encourage them to provide equal opportunities to all students.

“We have to be conscious we are not reinforcing socio-economic strata,” said Paul Herdman, president and chief executive officer of the Rodel Foundation of Delaware. “We want to create a broad set of options for folks.”

Herdman also noted that the state leaders are looking carefully at the quality of the pathways programs as the program grows. “Any time you grow fast, there is the issue of capacity and quality,” he said. “We have to be vigilant.”
A key element of the Pathways initiative is work-based learning. By providing students with opportunities to apply their knowledge and skills in actual work sites, students gain the skills and experience they need to begin their careers. And companies gain workers who are capable of starting effectively on day one.

In other countries such as Switzerland, these opportunities are routine. There, some 70 percent of young people participate in a dual system in which they spend time as apprentices in a wide range of industries while they take courses in school. The Swiss system is a major factor in that country’s strong economy; per capita GDP in Switzerland in 2013 was $80,528, the fourth highest in the world.\(^7\)

In this country, which lacks the guild tradition that has enabled Switzerland and other countries to develop highly sophisticated apprenticeship programs, many employers have been reluctant to provide work-based experiences for young people. In part, this reluctance reflects the fact that many employers are ill-prepared to provide the mentorship and supervision needed for teenagers, who may lack experience in any work setting, particularly settings with sophisticated equipment and demanding timelines.

Many employers are also wary of providing training for young workers who may end up getting full-time jobs with their competitors. In those cases, the employers believe, they incur the expenses without reaping the benefits.

In Delaware, many employers have been eager to provide work-based learning experiences for youth, according to Governor Markell. The employers see the experiences as a way of helping fill the skills gap by training a cadre of potential employees who are simultaneously gaining valuable skills and knowledge in the classroom, he said.

“So far, they’ve seen the light,” he said. “Employers recognize they get a lot of value out of this. We’re not asking them to do this out of charity—we’re asking them to do it out of their self-interest. When they do, they see the value of doing this.”

Gary Stockbridge of Delmarva Power acknowledged that some employers might be reluctant to hire high school-aged interns, but said there is a growing recognition that the practice will help develop a talent pipeline, which is badly needed in the state. “At Delmarva, we have found that it is easier to do internships at the college level than at the high school level,” he said. “At the high school level, it’s more about helping the individual student than it is about the student helping the business. At the college level, you get benefits back—they are more senior, more able to work on their own. But you are developing a talent pipeline, so you spend more time [with high school students] helping them understand the soft skills. Businesses have to understand that.”

Employers who have hired students as interns said they have been impressed with the knowledge and enthusiasm the young people bring to the job. “They have passion, drive, they want to know more,” said Meg Gardner, the owner of the Blue Moon restaurant in Rehoboth Beach, who has hired five students under the Pathways program. “They
want to get all the experiences. They want to do more than they were hired to do.”

Joshua Grapski, the owner of a group of restaurants in Rehoboth Beach, agreed that the workers are eager to learn, and added that their coursework provides a nice complement to the hands-on experience they get while working as interns. “I’m impressed with how well the curriculum fits with what the industry needs,” he said.

He added that the students learn cooking techniques as well as business and management. “That’s something I wish I had in high school,” Grapski said. “It’s applicable if they want to own a restaurant some day or be a general manager. They know marketing, financing.”

Still, he and others acknowledged that there are some limits on what high school-aged interns can do in the workplace. Youth under age 19 cannot serve alcohol in restaurants, for example. And there are liability concerns involving potentially dangerous equipment.

In some cases, the partners have worked with other agencies to address these issues. For example, in setting up the advanced manufacturing pathway, the partners learned that some businesses cannot hire a youth under 18. So they worked with Goodwill Industries, which agreed to act as the employer of record. In that way, the youth would be paid by Goodwill but would work at the site.

Stockbridge noted that there are other ways besides hiring interns that businesses can provide work-based experiences for young people in the pathways. For example, business leaders can serve as mentors for youth by working one-on-one with young people and explaining what they do and helping them navigate career options. Technology opens up the possibility of “cyber-mentoring,” in which youth and adults in a business conduct live chats and email conversations, not limited by geography.

Delmarva Power and other businesses have also created job shadowing experiences, in which businesses invite students in for a day to see how the business works and talk to employees. Recent job shadowing events at Delmarva Power focused on information technology and managing through a storm, Stockbridge noted.

“As we think about work-based experiences more broadly, internships may not be for everybody,” he said. “There are lots of opportunities for work-based experiences.”

**Intermediary Organization**

Delaware Tech is the lead agency in charge of arranging the work-based experiences. Because of the college’s long experience in working with employers, administrators there have close relationships with businesses and a vast amount of knowledge about the capacities of the businesses to work with young people.

In the spring of 2017, Delaware Tech hired a director for work-based learning and made plans to hire a team to work with her to take on the intermediary role. The college has studied two successful examples of organizations that link schools and businesses. The Boston Private Industry Council (PIC), perhaps one of the best-known and most successful intermediaries in the country, has coordinated job training efforts in the city since 1979 by creating summer job and internship opportunities for students in the Boston Public Schools. The Boston PIC was a leader behind the Boston Compact, a series of agreements among the schools, higher education institutions, and businesses to provide support and improvements to education and career preparation.

The other model for Delaware Tech’s work is the Philadelphia Youth Network, which since 1999 has worked with more than 200 organizations in the city to provide opportunities for youth development and employment for more than 160,000 young people.

However, unlike those organizations, Delaware Tech is planning to rely on technology to match students and employers. “We don’t have the funding to support 40 to 50 people to connect students to jobs” as the Boston PIC and the Philadelphia Youth Network do, said Paul T. Morris Jr., the assistant vice president for workforce development and community education at Delaware Tech. “We’ll use technology to do that. That’s where the matchmaking will happen. There will be connections beyond that, but the [electronic] platform will do the heavy lifting connecting students to employers.”

The electronic platform Delaware Tech will use is already in place. SPARC (Success Pathways and Roads to Careers) is an online resource designed to enable
students to learn about career options and connect with employers as well as enable employers to let students know about work-based learning opportunities.

By signing on to SPARC, students can match their interests to available careers and connect with a Career Coach from industry who can provide virtual mentoring. The site, which was developed by the Delaware Business Roundtable Education Committee, the Delaware Department of Education, and the United Way of Delaware, also contains downloadable resources to help schools conduct career fairs. Resources include invitation letters to employers and a how-to guide for career panels.

Currently, some 76 employers have signed on to SPARC, with 92 career counselors. State officials plan to link the site to Delaware JobLink, a state-run website on which job seekers can post resumes.

Under the plan, Delaware Tech will link to SPARC to connect schools and businesses by matching the services the schools need with those the employers can provide. The services can range from supplying guest speakers to offering job shadowing to providing internships and apprenticeships. Delaware Tech will take care of the logistics and legal arrangements. “All schools have to do is plug and play,” said Morris.

The operation will also benefit businesses, which often find that they do not know whom to contact to provide services to schools, Morris said. This is particularly important in a state like Delaware where most businesses are small. In addition to maintaining the linking service, Delaware Tech will help form industry councils representing broad sectors of the economy to advise schools on business trends and help guide curriculum and programming decisions. The goal is to create six to eight councils, who will meet once or twice a year with high schools, Morris said. To provide additional support, Delaware Tech will also employ coordinators in each of the three counties in the state to “put out fires” and work directly with schools and businesses.

While Delaware Tech is taking the lead in connecting schools and businesses, other organizations in Delaware have also played intermediary roles in the Pathways initiative and will continue to do so. The Delaware Manufacturing Association was instrumental in bringing leaders of the industry together to help develop the curriculum for the state’s first pathway, in advanced manufacturing, and then enlisted employers to provide work-based experiences for students. The Delaware Restaurant Association played a similar role for the culinary and hospitality pathway.

Junior Achievement, a financial literacy nonprofit, has also helped arrange job shadowing for Delmarva Power, said Stockbridge. And the United Way of Delaware convened a breakfast for employers in Wilmington to showcase best practices. “Partners are starting to evolve, making it easier for the business community,” he said.

“So far, they’ve seen the light. Employers recognize they get a lot of value out of this. We’re not asking them to do this out of charity—we’re asking them to do it out of their self-interest. When they do, they see the value of doing this.”
While the Pathways initiative is providing important experiences and skill development for youth, leaders of the initiative recognized that it will be most effective if it is integrated into the state's system for workforce development. In this way, the pathways can provide an entry into further education and training and help the state meet its employment needs.

To that end, the state's Departments of Labor and Education worked to classify occupations into high-skill, middle-skill, and low-skill areas. The agencies could then use the Department of Labor's economic projections to determine which of the high- and middle-skill occupations were growing and at what rate. That enabled them to develop a more sophisticated investment strategy across the education and workforce system and to appropriate funds to develop new pathways.

The resulting classification is posted on a private website known as the Economic Development and Employer Planning System (EDEPS). Through EDEPS, the agencies—and employers—can see quickly which occupations are high-skilled, high-wage, and high-demand. This work is now being incorporated in the Department of Labor’s labor market information website and the Delaware Pathways website.

### Delaware: Labor Market Summary Data by Career Clusters

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
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<td>Manufacturing</td>
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<td>6.5%</td>
<td>$42,314</td>
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<td>Science, Technology, Engineering &amp; Mathematics</td>
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<td>4,090</td>
<td>483</td>
<td>6.2%</td>
<td>$102,347</td>
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<td>Transportation, Distribution &amp; Logistics</td>
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<td></td>
<td>28,560</td>
<td>2,527</td>
<td>8.2%</td>
<td>$37,995</td>
</tr>
</tbody>
</table>

Connection to Adult Education and Training

Pathways leaders have also taken steps to connect the initiative to the state’s adult education and training system. For example, they have expanded a data-sharing agreement between the state’s Departments of Labor and Education to integrate student-level data into Delaware’s Workforce Innovation and Opportunity Act (WIOA) system, which will help connect students who have earned employment certificates to postsecondary and adult education opportunities.

In addition, the Delaware Department of Labor is developing a way to grant advanced standing in apprenticeships to students who have completed pathways. And the state in late 2016 received a grant from the U.S. Department of Labor that will allow the expansion of an apprenticeship program from 1,000 to 1,300 participants. Apprentices are hired as full-time employees and receive pay while they are learning career skills. “That’s another postsecondary opportunity for youth,” said Rhine of the state’s Department of Education.

Support for Students with Disabilities

When the leaders of Delaware Pathways solicited public comments on their strategic plan, one of the most consistent comments they received was about the need to strengthen support for students with disabilities. In response, the leaders asked the state Department of Labor’s Division of Vocational Rehabilitation to join the planning team to help develop a more concerted strategy for that population.

As part of that effort, the state sought a U.S. Department of Labor Disability Employment grant to create “on-ramps” for students with disabilities to enable them to participate more easily in the pathways. They also plan to work with other agencies to identify services for students with disabilities and map them against the schools that are participating in the pathways programs. Additionally, they will conduct training for teachers, counselors, and special education coordinators to support students with disabilities.
When the Pathways leaders developed their strategic plan in 2016, they created a budget that allocated projected spending and resources according to the five elements in the plan. That way, the partners would understand exactly what they needed for each element and seek funding to fill targeted gaps.

This braided funding strategy has enabled the state to make the best use of available funds. Because of the strong cross-agency collaboration, when one agency or organization receives funding from the federal government or a private philanthropy, it immediately starts a conversation about how it will support the Pathways work.

Much of the money on hand is from government sources. Under Rhine, the state’s career and technical education office used funds from the federal Carl D. Perkins Vocational and Technical Education Act to support the development of pathways. The funds went to curriculum development and teacher professional development, along with staff time for coordination.

In 2016, the initiative received a number of additional private grants, for a total of $3,275,000. These included:

- $250,000 from Strada Education Network (formerly USA Funds) to develop the Readiness with a Purpose program to support college readiness in English language arts
- $720,000 from Delmarva Power to develop the energy pathway
- $100,000 from Capital One to launch the workforce intermediary by enabling Delaware Tech to hire an intermediary director
- $50,000 from Bank of America to scale Delaware Pathways
- $50,000 from the Delaware Business Roundtable Education Committee to support continued membership in the Pathways to Prosperity Network and support the workforce intermediary
- $55,000 from United Way of Delaware to support the SPARC platform
- $2.05 million from JPMorgan Chase & Co. and the Council of Chief State School Officers. Delaware became one of 10 states to win a three-year grant under the New Skills for Youth initiative, which supports the development of statewide career and technical education systems—precisely the kind of system Pathways is aiming to become.

In addition, Delaware Tech won a $3.5 million grant from the U.S. Department of Labor to support certification programs in advanced manufacturing and information technology, and the Delaware Department of Labor received $800,000 from the federal Department of Labor to expand apprenticeship programs.

While these and other fundraising efforts were successful and enabled the work to continue, the leaders were less successful in securing state funding for the initiative. The governor included funds for Pathways in his 2016 budget, but the legislature cut the funding—along with all other new funding—because of a $75 million deficit. The state has a deficit in 2017 as well, so new state funding is unlikely.

Herdman of the Rodel Foundation of Delaware said state funding is essential. “For long-term sustainability, we need to figure out the public sector side,” he
said. “We’ve talked to districts, and we’re working with the economic development office and higher education. As we build the case for this, we are working on a matrixed strategy to get there. We have to be creative.”

As they pursue options for state funding, the leaders are also coordinating their strategy for finding private dollars. The goal is for 60 percent of the funding to come from public sources and 40 percent from private sources by 2019.

Under the leadership of the United Way of Delaware and the Rodel Foundation of Delaware, the leaders are identifying potential sources of funding and coordinating the development of grant applications.

Because they have been careful about linking funds to their strategic goals, the partners can direct their fundraising efforts to their needs. If the funds do not come through, they will slow their expansion plans. But they do not need to cut back on the initiative, said Rhine. “This is a best-case scenario budget,” he said. “We will engage in work that maintains or improves current status. If in ’17 we are not able to confirm [additional funding], that work will flow back to ’18 or ’19, when we believe we will garner money to accomplish that activity.”
Delaware Pathways leaders knew from the outset that they would need to engage the broader community in the effort if it were to succeed. Schools would have to sign up to participate, students would have to enter the pathways, and businesses would have to provide work-based learning for youth. The leaders needed to make sure as many people as possible knew about the program and supported it.

As a first step, the leaders cast a wide net to solicit public comment on the strategic plan, which was published in draft form in February 2016. In dozens of face-to-face meetings and public forums, the leaders explained the program and invited reactions. They also posted it online and made it possible for people to submit comments via the Internet.

In all, they received more than 800 comments, as noted previously, the comments led to changes in the program. Specifically, the leaders created a course for students who needed additional help to meet college-level English language arts requirements, and they enlisted other agencies to provide additional support for students with disabilities to enable them to participate in the pathways.

However, the partners did not engage in a broad-based engagement strategy until early 2016, when they secured funding for it through the New Skills for Youth grant from JPMorgan Chase & Co. According to Robert Ford of the Workforce Development Board, the trajectory of community engagement for the Pathways initiative resembles a hockey stick: flat and then rising sharply.

As part of their efforts, the leaders hired a local communications firm, Strongpoint Marketing, to conduct a communications audit to determine effective outreach strategies. Based on the audit, Strongpoint drafted a communications plan. Key elements of the plan included:

- Upgrading the Delaware Pathways website (delawarepathways.org) to provide clear information about the initiative for students, parents, and employers
- Producing toolkits for employers and parents with information about pathway programs and participating schools
- Developing materials for schools to promote Pathways programs
- Launching a social media outreach campaign

The leaders also agreed to produce an annual outcomes report to hold themselves accountable for the success of Delaware Pathways (see report on next page). The leaders went through several iterations before agreeing to a report that provides data on the most important outcomes, said Rhine. “It was a hard conversation—is the information valid and reliable? How do we find the thing that influences all others—what moves the needle most?”

In the end, the report card is blank in a couple of areas where data do not yet exist, Rhine said.

According to Governor Markell, winning support for the initiative has not been a great challenge. Parents are beginning to recognize that a four-year university degree is not the only path to success for young people, and this offers a better way, he said.

“The business model of paying $40,000 a year for a mediocre four-year college that may not get you qualified for a career is broken. Credentials are more important,” said Governor Markell.
### PAGE BREAK

**DELAWARE PATHWAYS OUTCOMES REPORT**

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**Percent of secondary students (grades 9-12) enrolled in Delaware Pathways Programs**

<table>
<thead>
<tr>
<th>Metric</th>
<th>Progress Towards Goal</th>
<th>Actual (2016)*</th>
<th>Target (2019)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>5%</td>
<td>100%</td>
<td>1,850 students</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>20,000 students</td>
</tr>
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</table>

**Percent of secondary students demonstrating career and college readiness benchmarks**

<table>
<thead>
<tr>
<th>Metric</th>
<th>Progress Towards Goal</th>
<th>Actual (2016)*</th>
<th>Target (2019)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>60%</td>
<td>100%</td>
<td>5,429 students</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>8,873 students</td>
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</table>

**Percent of secondary students that successfully transition into postsecondary education and/or the workforce (see citation)**

<table>
<thead>
<tr>
<th>Metric</th>
<th>Progress Towards Goal</th>
<th>Actual (2016)*</th>
<th>Target (2019)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>56%</td>
<td>100%</td>
<td>5,075 students</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>7,690 students</td>
</tr>
</tbody>
</table>

**Percent of secondary and postsecondary students participating in a work-based learning course**

<table>
<thead>
<tr>
<th>Metric</th>
<th>Progress Towards Goal</th>
<th>Actual (2016)*</th>
<th>Target (2019)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>8%</td>
<td>100%</td>
<td>2,516 students</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>8,220 students</td>
</tr>
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</table>

**Percent of secondary and postsecondary students successfully completing a work-based learning course**

<table>
<thead>
<tr>
<th>Metric</th>
<th>Progress Towards Goal</th>
<th>Actual (2016)*</th>
<th>Target (2019)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>93%</td>
<td>100%</td>
<td>2,190 students</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7,398 students</td>
</tr>
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</table>

**Percent of schools and employers indicating satisfaction with workforce intermediary activities (survey to be developed – 2017 baseline and target)**

<table>
<thead>
<tr>
<th>Metric</th>
<th>Progress Towards Goal</th>
<th>Actual (2016)*</th>
<th>Target (2019)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td></td>
<td>BASED ON 2017 BASELINE</td>
<td></td>
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</table>

**Percent of in-school youth who are at-risk of not graduating high school (defined under WIOA) that exit high school and successfully transition into postsecondary education (see citation)**

<table>
<thead>
<tr>
<th>Metric</th>
<th>Progress Towards Goal</th>
<th>Actual (2016)*</th>
<th>Target (2019)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>32%</td>
<td>100%</td>
<td>97 students</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>150 students</td>
</tr>
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</table>

**Percent of youth with an individualized education program (IEP) that exit high school and successfully transition into postsecondary education and/or the workforce (see citation)**

<table>
<thead>
<tr>
<th>Metric</th>
<th>Progress Towards Goal</th>
<th>Actual (2016)*</th>
<th>Target (2019)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>63%</td>
<td>100%</td>
<td>376 students</td>
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<tr>
<td></td>
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<td>410 students</td>
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**Percent progress on Workforce Data Quality Campaign “Mastering the Blueprint” annual survey**

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<th>Progress Towards Goal</th>
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<th>Target (2019)*</th>
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<tr>
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<td>19%</td>
<td>100%</td>
<td>4 OF 13 INDICATORS</td>
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<td></td>
<td></td>
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<td>12 OF 13 INDICATORS</td>
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**Percent attainment of private/external funding goal**

<table>
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<th>Metric</th>
<th>Progress Towards Goal</th>
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<th>Target (2019)*</th>
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</thead>
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<tr>
<td>0%</td>
<td>9%</td>
<td>100%</td>
<td>$365,000</td>
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<td></td>
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<td>$4,000,000</td>
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**Percent attainment of public funding goal**

<table>
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<th>Metric</th>
<th>Progress Towards Goal</th>
<th>Actual (2016)*</th>
<th>Target (2019)*</th>
</tr>
</thead>
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<tr>
<td>0%</td>
<td>16%</td>
<td>100%</td>
<td>$941,000</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>$6,000,000</td>
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**Percent of money received through private and public funding**

<table>
<thead>
<tr>
<th>Metric</th>
<th>Progress Towards Goal</th>
<th>Actual (2016)*</th>
<th>Target (2019)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>27%</td>
<td>72%</td>
<td>27% PRIVATE 73% PUBLIC</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>40% PRIVATE 60% PUBLIC</td>
</tr>
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</table>

**Percent increase of unique visitors to the Delaware Pathways website and social media accounts**

<table>
<thead>
<tr>
<th>Metric</th>
<th>Progress Towards Goal</th>
<th>Actual (2016)*</th>
<th>Target (2019)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>10%</td>
<td>100%</td>
<td>350 UNIQUE VISITORS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3,500 TOTAL UNIQUE VISITORS</td>
</tr>
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</table>

**Percent increase in participation at Delaware Pathways events**

<table>
<thead>
<tr>
<th>Metric</th>
<th>Progress Towards Goal</th>
<th>Actual (2016)*</th>
<th>Target (2019)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>16%</td>
<td>100%</td>
<td>350 PARTICIPANTS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2,150 TOTAL PARTICIPANTS</td>
</tr>
</tbody>
</table>

**Percent of target population (parents and employers) that support Delaware Pathways as a core part of the state education system (survey to be developed – 2017 baseline and target)**

<table>
<thead>
<tr>
<th>Metric</th>
<th>Progress Towards Goal</th>
<th>Actual (2016)*</th>
<th>Target (2019)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td></td>
<td>BASED ON 2017 BASELINE</td>
<td></td>
</tr>
</tbody>
</table>

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*THREE OF THE MEASURES FOCUS ON TRANSITION FROM SECONDARY TO POSTSECONDARY EDUCATION OR EMPLOYMENT. THERE IS A ONE-YEAR DELAY IN DATA REPORTING FOR THE DESIGNATED YEAR.*
Pathways to Success

Pathways leaders are confident that they can reach their goal of expanding the initiative so that half of all high school students are enrolled in a pathway by 2019. All the pieces are in place.

Already, the initiative has produced a number of accomplishments. The biggest beneficiaries, of course, are the students who have gone through the pathways, like Andrew Flynn and Joe Zecca. They now have skills, work experience, and a credential that will enable them to pursue further education or a career. And there are thousands more with those advantages.

But the initiative has also produced some ancillary benefits, some of which might not have been expected at the outset.

Redesigning high schools

For decades, education reformers have urged an overhaul of high schools to make them more relevant and engaging for students. Although the graduation rate has been rising, many students continue to drop out of high school, and surveys continually show that high school students remain bored and disengaged in school. The academic performance of high school students has been flat for years, according to national tests like the National Assessment of Educational Progress and international tests like the Programme for International Student Assessment.\(^8\)

The Pathways initiative has accelerated high school redesign in Delaware. As previously noted, the Appoquinimink School District reorganized its high schools into “schools,” each of which includes one or more career pathways. Each of the pathways offers opportunities for students to take Advanced Placement courses or dual enrollment options, and each provides work-based learning experiences with business and industry partners.

Matthew Burrows, the district’s superintendent, said the redesign was aimed at supporting all students, including those who did not intend to go on to four-year colleges. “For a long time, we have been saying ‘college and career readiness,’” he said. “We’ve done a wonderful job on the college piece. We want to do a better job on the career piece.”

Burrows added that the district had had career pathways for seven years, but the state effort propelled them forward. “It has accelerated high school redesign,” he said.

In addition, the work has spread to the middle schools. Some pathways, like engineering and computer science, begin in middle school. And middle school teachers are working with high school teachers to align coursework to improve the preparation of students.

Best of all, Burrows said, the work is spreading to other districts. “The highest form of flattery: other districts have taken our course catalogue and tried to duplicate it,” he said. “That’s great. It’s great for kids—the more kids have access to that, it’s a good thing.”

Linking schools, colleges, and employers

The vision of Pathways was to create a seamless system in which students moved from high school through postsecondary education to employment. Achieving that vision required the three sectors to work together in ways they seldom have throughout the history of American education. The Pathways initiative has indeed made that happen.

In Delaware, the leaders of the sectors knew one another and had worked together to craft a statewide vision for education. But the initiative has also led to partnerships on the ground that had not been in place before.
For example, business leaders and educators from Delaware Tech and the K-12 sector worked closely together to develop the pathways curricula. This was not an easy task; business leaders had complained for years that students lacked the skills they needed for entry-level employment, but they had not articulated the precise skills that were necessary, nor had they developed a program of study that would enable students to develop those competencies in a systematic way. Now such programs of study are in place.

Similarly, there are now more partnerships than ever between schools and businesses. Schools work with businesses to hold career fairs, and businesses are sending representatives to schools to discuss careers as well as inviting students and teachers to job shadowing experiences in the workplace. With the launch of the intermediary at Delaware Tech, these activities will accelerate rapidly.

K-12 and higher education leaders have also worked together to try to create a better link in academic content. In developing the Readiness with a Purpose program, which provides support to low-performing students in English, the two sectors collaborated to ensure that the coursework students took in high school was equivalent to the expectations for college entry. The partners are developing a similar program in math.

**Changing expectations for youth**

Much of the education reform rhetoric in the past decade has focused on getting more students to go to college. In part, this reflects a greater recognition that the workplace in the coming decade will require students to attain some form of postsecondary education; the wage gap between college graduates and those with a high school diploma or less is large and growing.

However, success does not necessarily require a four-year degree, and because of Pathways, Delawareans increasingly recognize this. In large part, this is because Pathways redefined career and technical education in the state after Rhine took over the department in 2014.

“The Pathways work opened the door to rethinking how we think about careers and college,” said Herdman of Rodel. “It could be a one- or two-year certificate program. Kids [who take that route] are doing just fine or better in terms of income and quality of life. For the 70 percent of people who didn’t finish college, their life choice was validated.”
CHALLENGES AHEAD

While the initiative has been successful, the partners face some challenges moving forward. These challenges do not threaten to unravel the initiative, but the leaders need to address them to ensure that Pathways accomplishes its goals.

Changes in leadership

Governor Markell, who set the initiative in motion, stepped down as governor in January 2017 because of term limits. His appointed Secretary of Education also stepped down. In many cases, the loss of two key leaders can threaten an initiative because new leaders want to put their own stamp on policies, not necessarily carry out the policies of their predecessors.

In this case, that does not look likely. The new governor, John Carney, spoke at the annual Delaware Pathways conference in March 2017. In his comments at the conference he focused on the essential role the Delaware Pathways initiative plays in the state’s economic development strategy. Since taking office, Governor Carney has restructured the state’s economic development agency, creating a more nimble public-private partnership focused on the 21st-century economy.

In a visit following the conference to Appoquinimink School District’s Pathways program, Carney pledged his support for expanding and strengthening Delaware Pathways.

The new Secretary of Education, Susan Bunting, is also an enthusiastic supporter of the initiative. She was previously superintendent of the Indian River School District, whose two high schools, Indian River High School and Sussex Central High School, operate the engineering pathway. The leadership transition appears smooth.

Uncertain funding

The gap between planned programming and secured funds is large: more than $3 million. Fortunately the leaders have been effective in securing private funds and they have a strategy for pursuing grant opportunities where they exist. They also have designed the initiative so that existing funds support current programming; expansions will be delayed if funding does not materialize.

A bigger challenge is in securing state funds for Pathways. While the partners have been very successful in using federal funds to support the initiative and have secured millions of dollars in private grants, they all recognize that a reliance on those sources of funding alone cannot sustain the program. Only with a steady stream of state funds can they put down roots and build an infrastructure. The state’s budget deficit has blocked that stream, at least for the time being.
Inadequate student preparation

Delaware Pathways provides opportunities for students—but students have to be prepared to take advantage of those opportunities. In order to take Pathways courses and earn college credit while in high school, students must be ready for college-level work. But a large number of Delaware students lack that preparation.

According to a state report, 40 percent of Delaware high school graduates were required to take remedial coursework in college in 2016, and the gaps in remediation rates between white students and students of colors and low-income youth are high: only 34 percent of white students were required to take remedial courses in college, compared to 50 percent of Hispanics, 59 percent of African Americans, and 53 percent of low-income students. Forty-three percent of Delaware’s class of 2014 did not attend college at all.9

But the warning signs for this lack of preparation appear earlier than college. On the SAT, which as of 2016 is required for all 11th graders in the state, only 27 percent of Delaware students met the benchmark in either math or English language arts. (Students who meet the SAT benchmark are much less likely to be required to take remedial courses than those who do not.) And, again, the gaps are large. While 37 percent of white students met the benchmark in math and English language arts, only 14 percent of Hispanics met the benchmarks in either subject area, and just 12 and 10 percent of African American students met the benchmark in English language arts and math respectively.10

Pathways leaders recognize this challenge, and they have secured funding to develop a course to accelerate the English language skills for students who fail to achieve the benchmark score on the SAT. They are developing a similar course in math.

But Rhine of the state Department of Education recognizes that this is a “Band-Aid strategy.” Ultimately, he said, colleges and secondary schools need to work together to align coursework so that all students learn what they need in high school to be prepared for postsecondary education. “I don't want to be doing this in five years,” he said.
THE NEW SWITZERLAND?

These challenges are formidable, but the Pathways leaders are aware of them and have plans to address them. In the meantime, they have much to show the rest of the nation.

The number of students enrolled in pathways—nearly 9,000—has grown astronomically and is projected to continue to grow, to reach the target of 50 percent of the state’s high school students by 2019.

The number of businesses providing work-based learning has increased rapidly—76 companies are entered into the online resource SPARC—and the intermediary structure at Delaware Tech will accelerate the process.

Although the partners have been unable so far to secure state funding, they have been successful at raising private and federal funds and using them strategically to advance the initiative.

The partners have constructed an infrastructure that includes high-level support to manage the initiative and steer its growth.

At the statewide Delaware Pathways conference in March 2017, Pathways to Prosperity Co-Founder Robert Schwartz noted that he has frequently taken Americans interested in a seamless career pathways system to Switzerland, which he has called the “gold standard” in career and technical education. In fact, Herdman from Rodel and Rhine from the Delaware Department of Education accompanied Schwartz on a trip to Switzerland at the outset of the Delaware Pathways initiative.

In the not-too-distant future, Schwartz predicted, he might not have to take visitors all the way to Europe. He might be able to bring them to Delaware.

Delaware Pathways is a long way from Switzerland’s system, which has 500 years of history behind it. But the state is off to a promising start.
ENDNOTES


5. Symonds, Pathways to Prosperity, 34.


