

# Connecting Delaware Students to Careers



## Baseline Report on Career Pathways and Work-Based Learning in Delaware

*Prepared under contract to*  
Rodel

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## Introduction

The Delaware Pathways initiative seeks to prepare Delaware's youth to continue their education beyond high school and pursue careers in high-demand fields. The initiative began in 2014 under the leadership of five founding partners, the Delaware Department of Education (DDOE), the Delaware Department of Labor, the Delaware Technical Community College (Delaware Tech), Rodel, and the United Way. These partners developed a statewide strategic plan for the Delaware Pathways initiative in 2017. As part of this plan, they committed to scaling and sustaining state-model Delaware Pathways, career and technical education (CTE) pathways for students in grades 7–14 offering students the technical and “soft” skills necessary for successful, gainful employment.<sup>1</sup> Delaware Pathways provide students with workplace experiences, opportunities to earn college credit and industry-recognized credentials, and skills necessary to become a productive member of the state workforce upon graduation.

In 2018, Bloomberg Philanthropies awarded Delaware a \$3.25 million grant to support the development of several components of the broader Delaware Pathways initiative, including strengthening meaningful employer engagement and expanding work-based learning (WBL) opportunities for students. The partners on this grant are DDOE, Delaware Tech, and Rodel, a nonprofit focused on improving public education in Delaware.<sup>2</sup> The partners hired RTI International (RTI) to collect and analyze data on the initiative to inform program improvement and track outcomes.

This report covers the beginning of this work from January to June 2019, addressing the following questions:

1. What does student participation in career pathways and WBL look like across Delaware? What factors facilitate or impede student participation?
2. What is the scale of employer engagement across the state and what do employer experiences with the schools look like? What factors facilitate or impede employer engagement and satisfaction?
3. What activities are planned for the next two years to expand Delaware Pathways, WBL, and employer engagement?
4. What insights for implementation emerge from this baseline scan?

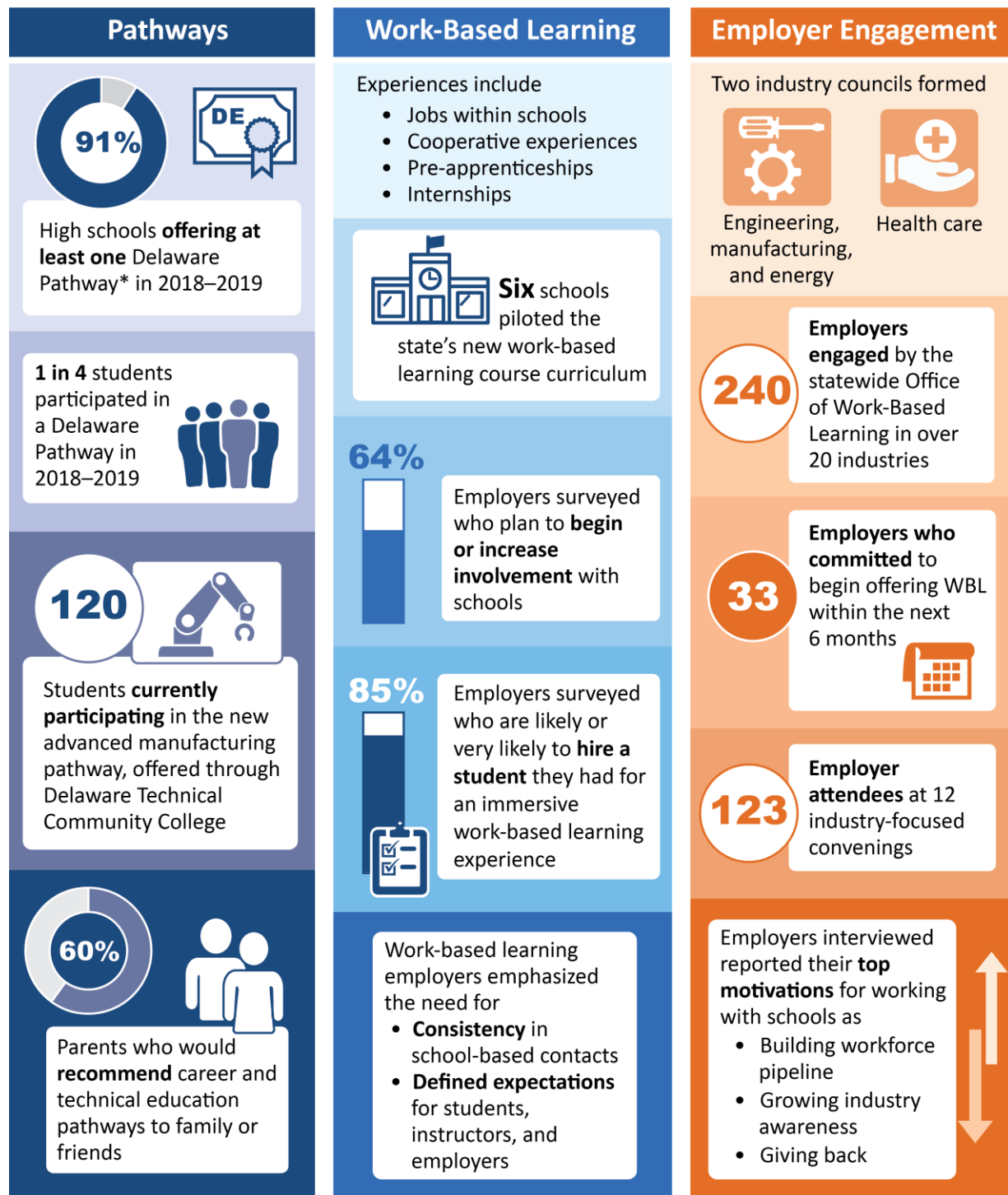
Data collection during this period included site visits and interviews with staff of comprehensive, vocational-technical (vo-tech), and charter schools across Delaware. RTI also conducted employer and parent surveys and employer focus groups to gauge stakeholder familiarity and engagement with career education programming. Finally, the report includes an analysis of baseline quantitative data from the state education data system on student access to and participation in CTE pathways. Additional information on data collection is included in the appendix.

Exhibit 1 summarizes the state of Delaware Pathways, WBL, and employer engagement in the first half-year of the grant. The remainder of this report provides additional detail on the focal areas of the initiative's work: employer engagement, CTE pathways, and WBL opportunities.

<sup>1</sup> Delaware Pathways are also known as state-model CTE pathways.

<sup>2</sup> For more information on Rodel, see: <http://rodelde.org/>.

Exhibit 1. January to June 2019 Baseline Data and Grant Activities



\* Delaware Pathways are state-model CTE pathways offered in comprehensive, vocational-technical, and charter high schools.

## Statewide Employer Engagement

In 2018, the initiative launched the Office of Work-Based Learning (OWBL), a statewide intermediary to support and scale WBL at Delaware Tech.<sup>1</sup> The OWBL is an office within Delaware Tech that supports the Delaware Pathways initiative. In the last six months, the OWBL hired a director and two specialists to focus on employer engagement using two strategies: developing statewide industry councils and creating an inventory of businesses to recruit for WBL.

The OWBL held the first annual meetings for industry councils in engineering, manufacturing, and energy (63 members), and health care (108 members) in 2018 and created an information technology industry council in 2019. Each council is governed by an executive committee that meets quarterly to advise educators and local employers on industry skill needs and credential options and to review labor market needs by county. To boost attendance at future council meetings, the OWBL plans to schedule them in conjunction with industry association meetings to make it easier for employers to attend.

### Leveraging employer networks:

After convening the first two councils, staff at the Office of Work-Based Learning at Delaware Tech found personal outreach and employer-to-employer recruitment to be the most effective strategies for engaging employers. To develop an information technology council, OWBL staff plan to connect with a core 20- to 30-member group of employers to strategize about attracting additional employers prior to hosting the statewide meeting in the summer.

Since January 1, 2019, the OWBL staff has met with more than 240 employers interested in working with schools. Among those employers, 33 signed agreements to participate in WBL within the next six months, and 20 have already fulfilled that agreement. The OWBL developed its inventory of employers by meeting with them individually, asking employers for peer referrals, and by attending industry association and state and local Chamber of Commerce meetings. The OWBL's work focuses on relatively large statewide employers and is intended to complement school districts' networks of local and regional employers.

Over the next two years, the OWBL plans to expand employer engagement within and across industries and to develop six additional industry councils (Exhibit 2). The information technology industry council began meeting in May 2019 and a construction and trades industry council is being planned for fall 2019. The OWBL also is developing training and a toolkit for release later this year for employers interested in engaging with schools and districts. Additionally, the OWBL is launching a new website to share its purpose and activities with employers, schools, and districts.

### Exhibit 2. Tentative Industry Council Launch Timeline

2018		2019		2020		2021	
spring	fall	spring	fall	spring	fall	spring	fall
Engineering, manufacturing, and energy	Health care	Information technology	Construction and trades	Banking and finance	Hospitality	Business and education	Arts and media

Note: For more information on the industry councils, see <http://delawarepathways.org/owbl/industry-councils>.

## School-Level Delaware Pathways

The DDOE released the first of its 25 state-model Delaware Pathways models for district and charter school adoption (with DDOE support) starting in 2015–2016. Since then, the initiative has expanded access to career-related technical programs that integrate rigorous academic content beyond the state's vo-tech schools.<sup>2</sup> As of the 2018–2019 school year, 42 high schools (26 comprehensive, 6 technical, 8 charter, and 2 institutions serving at-risk youth) offer Delaware Pathways, collectively serving 12,943 students. One additional Delaware Pathway (marketing) will be released in the 2019–2020 school year.

*"[My career and technical education pathway teacher] has helped prepare us to get jobs, [go to] college, and also prepares students who don't want to go to college and just want to go straight into a landscaping job."*

-Agriculture student, Seaford

Districts reported adopting Delaware Pathways as they became available, largely by transitioning existing pathways to the new curricula. School staff noted that the

Pathways fit well with

changes already under way to increase rigor in CTE programs.

Administrators and teachers identified benefits and challenges of Delaware Pathways for their schools and students. The interview analysis suggested opportunities to scale pathways based on the feedback and lessons learned shared by the schools, as outlined in Exhibit 3.

### Delaware Pathway Elements:

- Alignment with a demand-driven occupation
- Definition of a course sequence and instructional outline
- Opportunities to earn college credit and industry-recognized credentials
- Work-based learning experience
- Support for school administrators and counselors
- Pathway-specific professional learning opportunities for teachers

### Among Delaware students in grades 9–12 in 2018–2019,

- **1 out of 4** participated in a Delaware Pathway;
- **33 percent** more students are projected to enroll in pathways aligned to high-demand industries;
- **120 students** are expected to complete the advanced manufacturing pathway, compared to 90 students in the prior year; and
- **205 and 1,700 students** are expected to earn technical and academic postsecondary credit aligned with their pathway, respectively

Source: Delaware Department of Education.



**Exhibit 3. Pathway Program Early Wins, Challenges, and Opportunities**

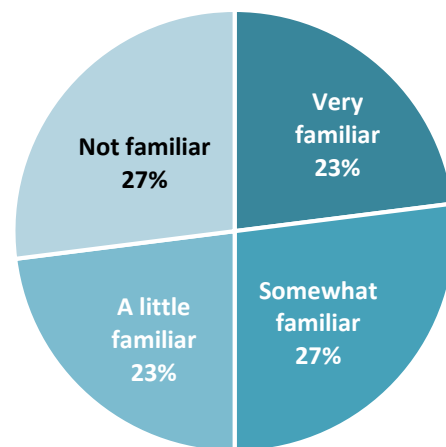
Early Wins	Challenges	Opportunities
<ul style="list-style-type: none"> <li>Teachers save time and energy on program development</li> <li>Curricula are streamlined for students transferring across schools and districts</li> <li>Students become more engaged in coursework</li> <li>Opportunities for students to earn postsecondary credits and industry credentials result in increased rigor</li> <li>Schools have a broader range of pathway options</li> </ul>	<ul style="list-style-type: none"> <li>Qualified instructors with teaching and industry experience are in short supply</li> <li>Old and new curricula must be balanced while transitioning to Delaware Pathways</li> <li>Equipment and technology must be kept up-to-date</li> <li>Schools compete to attract students and maintain the most advanced facilities in the region</li> <li>Limited in-depth exposure impedes students' understanding of the breadth of options before they choose a pathway</li> <li>Teachers perceive constraints on their creativity in lesson planning</li> </ul>	<ul style="list-style-type: none"> <li>Support externships for teachers to learn about industry practices</li> <li>Offer guidance on the extent to which Delaware Pathways elements must be implemented to qualify for state funding</li> <li>Provide support for teachers implementing new curricula, such as lesson plans or temporary teacher aides</li> <li>Provide schools with employer input on changing industry standards</li> <li>Market pathways regionally to help match students with schools offering pathways meeting their interests</li> <li>Introduce programs to expose students to pathway options, such as classroom rotations</li> </ul>

**Parent Perceptions**

Research has demonstrated a lack of parental awareness and outdated perceptions of CTE to be a barrier to pathway participation among students.<sup>3</sup> A survey of more than 1,000 parents across Delaware showed that about three in four parents were familiar with CTE career pathways (Exhibit 4),<sup>4</sup> though many regard these programs as an alternative to, rather than preparation for, higher education.

Of the 20% of parents reporting that their child was not planning to participate in a pathway, the most common reason (61%) was because the child planned to enroll in college. Only one-third of parents believed pathways were appropriate for students entering college immediately after high school.

Most parents of high school students who knew about CTE pathways (70%) would recommend them to children of family, friends, or coworkers.

**Exhibit 4. Parent Familiarity with Career and Technical Education Pathways**

Source: Delaware Pathways Parent Survey, 2019.

## Work-Based Learning Activities

Delaware schools aim to improve students' college and career readiness through awareness, exploration, and immersive WBL activities aligned to students' career interests.<sup>5</sup> The Delaware Pathways initiative has increased efforts to expand immersive WBL opportunities for students; these include clinical experiences, cooperative education experiences (co-ops), internships, pre-apprenticeships, and school-based enterprises.

DDOE, with the support of the OWBL at Delaware Tech, piloted a WBL course with six districts in spring 2019. The course content connects WBL experiences and academic learning, provides training on employability skills, and offers support for school and employer mentors. As part of the pilot, schools used and provided feedback on WBL course materials, including curriculum guidelines, instructional support, assessment strategies, and training. Pilot schools also created a working group to meet regularly outside of the feedback sessions.

The results of the pilot are anticipated in summer 2019. DDOE staff stated that the pilot experience revealed considerable variability in schools' readiness to scale WBL and a need for WBL-specific training and modules for instructors and other staff. In the coming year, DDOE plans to expand the pilot to more schools and use the lessons learned to incorporate new components, such as a train-the-trainer module for districts to implement with school staff in the 2020–2021 school year and the use of badges for students to indicate prior learning through career pathways.

Immersive WBL participation rates varied among the 12 high schools examined for this report (Exhibit 5). The schools were chosen to reflect different stages of Delaware Pathways and WBL development, in varied settings (rural, suburban, and urban) and different school types (comprehensive, vo-tech, and charter). Throughout the state in 2018–2019, 791 secondary students enrolled in WBL courses at charter and comprehensive schools, and 3,611 postsecondary students enrolled in immersive WBL courses at Delaware Tech.

Regardless of current participation levels, high schools are expanding immersive WBL opportunities for students in several ways:

- **Offering more opportunities for students.** All comprehensive schools in the study intended to scale up their immersive WBL offerings. These opportunities historically have been more common in vo-tech schools.
- **Developing immersive WBL experiences for students in non-CTE career pathways.** Schools such as Middletown reduced the distinction between CTE and other career pathways

**Exhibit 5. Percentage of 2018–19 Grade 12 Students Participating in Immersive Work-Based Learning Experiences in Select Schools**

%	High School
<b>&gt; 80</b>	–
<b>60–79</b>	Delcastle
<b>40–59</b>	Polytech Smyrna William Penn
<b>20–39</b>	Milford Woodbridge
<b>&lt; 20</b>	Brandywine McKean Middletown Newark Charter Seaford Sussex Tech

Source: Interviews with staff of 12 comprehensive, vo-tech, and charter high schools included in the study, spring 2019.

by introducing immersive experiences in such pathways as the visual arts, which did not offer immersive experiences previously.

- **Intensifying WBL experiences.** Both comprehensive and vo-tech schools are increasing the duration and types of WBL experiences available. For example, Seaford aims to shift WBL placements currently limited to a single course period to half-day, off-site experiences.

To create opportunities for students to participate in immersive WBL experiences, schools must engage employers. Most schools interviewed reported multiple strategies for employer recruitment, including asking advisory board members to recruit businesses and encouraging employers who have participated in career awareness and exploration activities (e.g., being a guest speaker, offering job shadowing opportunities) to commit to immersive activities such as internships. The variety of student career goals has prompted schools to expand and diversify their pools of employer partners to ensure that immersive activities align with interests of all students. Exhibit 6 summarizes schools' early wins, challenges, and opportunities with respect to WBL.

**Exhibit 6. Work-Based Learning Early Wins, Challenges, and Opportunities**

Early Wins	Challenges	Opportunities
<ul style="list-style-type: none"> <li>• Career and technical education and/or work-based learning (WBL) coordinators engage employers and create WBL placements, reducing effort required from teachers</li> <li>• Scheduling accommodations such as early release can facilitate participation in WBL</li> <li>• Unmet workforce needs have spurred employer interest and resulted in employment offers to high-performing students</li> <li>• Schools' employer partners help engage other employers by sharing their experiences working with students</li> </ul>	<ul style="list-style-type: none"> <li>• Demand for WBL currently exceeds available placements, resulting in competition across schools for sites</li> <li>• Small and rural communities, particularly in the southern part of the state, have few businesses and relatively fewer local partnership options for schools</li> <li>• Lack of transportation to off-site WBL opportunities leads some schools to focus on within-school WBL</li> <li>• Age or credential requirements limit students' ability to work in some fields</li> <li>• Weak soft skills among some students can jeopardize employer relationships and the school's reputation</li> <li>• Sustaining WBL placements through changes in school personnel or industry standards</li> </ul>	<ul style="list-style-type: none"> <li>• Facilitate collaboration among competing schools, perhaps using rotating placements</li> <li>• Create opportunities for virtual WBL experiences in communities with a small employer base</li> <li>• Support the Office of Work-based Learning at Delaware Tech in furthering industry councils' engagement with and support for local employer engagement Share promising practices and possible accommodations to overcome common issues that restrict students' WBL placements</li> <li>• Promote the state's WBL curriculum to increase student readiness for WBL</li> <li>• Conduct a social media campaign to invite businesses to work with students</li> </ul>



## Ensuring Quality

Though all schools aim to expand their WBL offerings, most lack formal practices for assessing the quality of WBL experiences, especially for immersive activities. Schools with more established WBL programs use strategies aligned with the new DDOE WBL course requirements, such as:

- Involving employer advisory boards in the design and monitoring of WBL experiences;
- Asking educators and employers to establish shared goals or learning objectives to guide students' WBL experiences;
- Ensuring alignment between WBL experiences and students' career pathways; and
- Requiring students to document and reflect on WBL experiences, sometimes using learning management systems or virtual portfolios.

*"[Coordinating with schools is] a very smooth process. It's easy, too. There's not a lot of paperwork. The co-op coordinator is very involved, the teachers are all very involved.... It's not difficult and it's been nothing but a great situation for us."*

- Employer, working with DelCastle

In accordance with state regulations, teachers reported checking in with employers to confirm that students are showing up as planned and meeting employers' performance expectations. School staff also described limiting placements to employers demonstrating a willingness to invest in student learning, sometimes quite literally by paying them, as crucial to a high-quality immersive WBL experience.

## Baseline Employer Work-Based Learning Experiences

While employer engagement work by OWBL at Delaware Tech is just beginning, many employers have already been involved in WBL through relationships with schools and districts. RTI surveyed and interviewed employers engaged in Delaware Pathways to understand their experiences with WBL. Among the 84 surveyed employers, most were already engaged in WBL and reported positive experiences working with schools. Specifically, 97% reported they would be likely or very likely to recommend working with schools to other businesses and 63% reported an intent to begin participating or increase their level of participation over the next two years. A quarter (23%) of the sample had never worked with schools on WBL, citing a variety of reasons such as staffing and financial resource limitations or students lacking the technical skills needed in the workplace.

*"We have to make a personal connection with the employer. The employer has to understand their role in that. We're not just trying to get kids jobs, and you're not just trying to find them bodies. You're trying to make this meaningful for both sides."*

- Administrator, William Penn

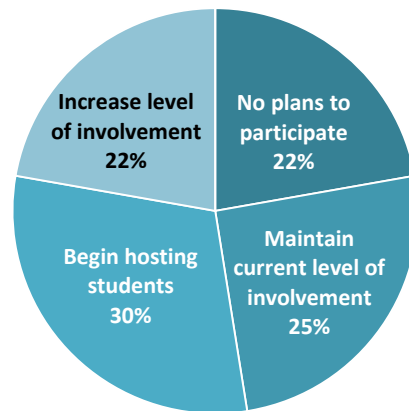
About half (48%) of employers surveyed had offered immersive WBL including co-ops, apprenticeships, internships, or clinical experiences, and about 13% reported hosting students for the first time this past year. Regardless of their current involvement, most employers said they intended to increase their participation

in immersive WBL (Exhibit 7): 30% plan to begin offering apprenticeships, internships, co-ops, or clinical experiences while another 22% plan to increase the number of students involved in those opportunities. Employers were asked to select the top three WBL program aspects contributing to their ability to offer immersive WBL (Exhibit 8). The top three were soft skills and professionalism training for students, training and resources for employers, and an online platform to post activities and find interested students.

In focus groups with employers engaged by schools, employers highlighted three school practices that they felt contributed to their positive experiences in working with schools and hosting students. First, employers appreciated having consistent contacts at schools and districts and knowing who to approach with questions. Second, employers valued starting WBL experiences with clear expectations, roles, and responsibilities for all involved (i.e., school, student, employer), through agreements and guidelines, for example. Third, employers emphasized the need for schools to ensure that students are ready to work in a professional setting before participating in WBL.

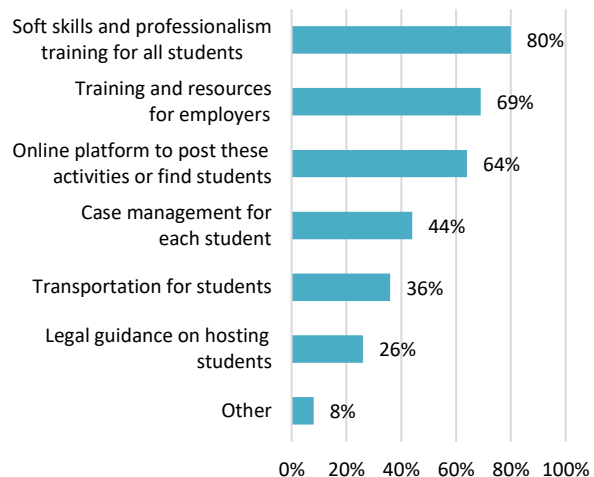
Employers described a variety of benefits including access to a workforce pipeline, improving student awareness of industries, and giving back to the community. For one employer, the benefit was being “part of a longer process to train a growing young workforce.” About 85% of employers surveyed said they were likely to hire a student they hosted for an immersive WBL experience (45% were “very likely” to hire these students). Echoing this in practice, one employer reported hiring 60–70% of high school students who had immersive WBL experiences with the organization.

**Exhibit 7. How Do Employers See Their Participation in Immersive Work-Based Learning Changing Over the Next 2 Years?**



Source: Delaware Employer Survey, 2019.

**Exhibit 8. What Factors Do Employers See as Key to Their Capacity to Offer Work-Based Learning Immersion Activities?**



Source: Delaware Employer Survey, 2019.

## Lessons Learned and Recommendations

The following recommendations for Delaware and lessons learned for other states are based on data collected for this report and knowledge gleaned from studying similar programs in other states.

- **Develop model career pathways for local implementation:** DDOE worked with business and industry representatives, educators, and community stakeholders to create Delaware Pathways as rigorous CTE programs integrating academic and technical content. Other states can use Delaware Pathways to identify the components of high-quality pathway programs suitable for district adoption or emulation.
- **Offer Delaware Pathways support for schools and teachers:** Resources such as phased implementation plans, lesson plans, temporary support staff for Delaware Pathway teachers, and clarity regarding state funding requirements would be helpful to school staff adopting and transitioning to Delaware Pathways. To prepare teachers, externships could help expose more instructors to high demand industries and occupations, as well as industry and workplace standards.
- **Educate parents about the link between Delaware Pathways and postsecondary education:** A minority of parent survey respondents thought Delaware Pathways were appropriate for college-bound students. In addition to providing details on pathway options, outreach to parents should emphasize opportunities for students to earn dual credit and the connections between Delaware Pathways and postsecondary programs.
- **Establish a statewide office to improve employer engagement in schools:** Delaware established an office to serve as the intermediary between industry and education. Other states might consider creating positions or a center dedicated to employer engagement to help increase school capacity to offer WBL and work with employers.
- **Customize assistance to districts on employer engagement:** The availability of employers and staff to support business engagement varies by school and district. Schools lacking these resources might benefit from targeted technical assistance and technological tools, such as directories of local employers willing to work with minors, to support WBL and local employer engagement.
- **Identify employers for WBL opportunities in all career areas:** Students universally endorsed the value of working with employers. However, schools cannot always identify enough WBL opportunities within each career area to meet student demand, particularly in less densely populated regions. Delaware Pathways initiative partners might assess which industries, occupations, or businesses are located near school campuses to help schools ensure equitable access to WBL for students with disparate career interests.
- **Enhance employer satisfaction and engagement with WBL:** Over the first six months, OWBL identified large employer-focused events (e.g., annual industry association meetings) as an effective recruitment venue for engaging new employers in WBL. Additionally, the employer survey suggested strategies for promoting employer satisfaction with WBL, including establishing consistent points of contact within schools or districts, clarifying roles and expectations for all parties involved in WBL and ensuring that students have the requisite soft skills before their WBL experience.

## Endnotes

<sup>1</sup> For more information on the OWBL, see: <http://delawarepathways.org/owbl>.

<sup>2</sup> For more information on Delaware Pathways, see: <https://www.doe.k12.de.us/Page/2016>.

<sup>3</sup> See <https://careertech.org/resource/value-and-promise-of-cte-results-from-a-national-survey>.

<sup>4</sup> The parent survey used the term “CTE pathways” instead of “Delaware Pathways” because CTE pathways is the term schools use most commonly when providing program information to parents.

<sup>5</sup> For more information on WBL in Delaware, see: <http://delawarepathways.org/owbl/the-wbl-continuum>.

## Appendix: Data Collection

The data analyzed for this report came from six sources: local- and state-level stakeholders implementing pathways and WBL, employers, parents, students, the education administrative data system of the DDOE, and project documentation collected using the following methods:

- **Site visits** to state-level partners and four comprehensive, vo-tech, and charter high schools (Exhibit A-1) collected in-depth data on different types of Delaware Pathways, WBL facilitators and barriers, and promising practices. The site visits included interviews with administrators, staff, teachers, and students.
- **Interviews** with staff from eight comprehensive and vo-tech high schools (Exhibit A-1) validated and supplemented site visit findings and provided information on the applicability of promising practices to other counties, school types, and schools of various sizes.
- **An employer survey and focus groups** addressed strategies for recruiting, engaging, and sustaining employers' involvement in pathways, WBL, and industry councils. Four focus groups were held with seven employers partnering with schools in two counties. The employer survey reached 84 professionals across the state in March through May 2019. The professionals represent companies aligned with 11 CTE pathway areas, ranging in size from fewer than 25 employees (34%) to 500 or more employees (17%).
- **A parent survey** collected information on familiarity with and perceptions of career pathways programs. A total of 1,392 parents of children in grades 6–12 in over 20 school districts responded to the survey in March and April 2019. About 77% of the responses came from parents in three districts, and 67% of respondents had students in high school.
- **Aggregate administrative education data** provided 2018–2019 data on student pathways and WBL participation.
- **A document review** included the Delaware Pathways strategic plan, internal reporting on Delaware Pathways across state agencies, and materials and reporting from the WBL course pilot.

**Exhibit A-1. Locations of Site Visits, Interviews, and Work-Based Learning Pilot in Delaware**

