



# Scaling Opportunity

*A Case Study on Delaware Pathways*

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# Introduction

Across the country, career pathways programs are a popular bipartisan tool for addressing state workforce shortages and ensuring students graduate high school with workforce-ready skills.<sup>1</sup>

Delaware Pathways is one such example, formally established by executive order in 2016 by then-Delaware Gov. Jack Markell. The program consists of state-approved career pathways programs that include high school and advanced coursework, work-based learning (WBL) experiences, and industry-recognized credentials that prepare students for middle- or high-skill careers, whether they enter the workforce immediately after high school or later in life. Delaware Pathways' programs of study were designed to be high-quality and labor market-aligned to meet both economic demand and students' needs.

Nearly a decade into Delaware Pathways' implementation, student participation in the program has increased rapidly, and the programs of study have expanded from just one to 24. Delaware Pathways are offered in every Delaware district and most high schools, as well as eight charter schools and two schools for at-risk youth in the custody of the Delaware Department of Services for Children, Youth & Their Families.<sup>2</sup>

**Now, the program is at a crucial inflection point as leaders prepare to expand services to middle school students.**

To inform the continued evolution of Delaware Pathways, Bellwether conducted an independent analysis of the program's evolution and developed a set of policy recommendations for Delaware leaders to consider moving forward (Table 1). In addition, we describe (a) the factors that led to the program's successful adoption and scale, and (b) key implementation challenges Delaware faced (Table 2). In our accompanying playbook, [Scaling Opportunity: A Policy Playbook for Effective Statewide Career Pathways Programs](#), we distill these lessons into key moves that policymakers in other states should consider when building or implementing similar pathways programs.

## Delaware Pathways

### OVERVIEW

#### Eligibility

All public school students in grades 9-12 (including those at vocational-technical schools and charters) are eligible. In the 2023-24 school year, students in select middle schools will engage in pilot Delaware Pathways programming as well.

#### Programming

Each pathway consists of at least three levels of consecutive classes, typically taken over 3-4 years. Participants also engage in a WBL experience (e.g., internships, pre-apprenticeships, job shadowing opportunities, and mentorship with industry professionals).

#### Completion

All pathways culminate in postsecondary credit and/or an industry-recognized certification.

TABLE 1: DELAWARE PATHWAYS KEY POLICY RECOMMENDATIONS

## Recommendations for Delaware

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1. **Refresh the governance model** by reconvening relevant stakeholders more often and considering ways to bring in other stakeholders, such as parents or students.
2. **Develop a renewed vision** for Delaware Pathways through an updated strategic plan focused on program sustainability and accessibility.
3. **Systematize ongoing data efforts** to integrate collection, analysis, reporting, and program iteration into an annual cycle.
4. **Address disparities** in equitable access and completion rates using the data gathered.
5. **Expand access** to WBL by providing more information and advising for students while involving employers more deeply.

TABLE 2: DELAWARE PATHWAYS LESSONS LEARNED

### Critical Factors for Success

1. Steadfast public-private partnerships.
2. Clear vision, effective plan, and strong leadership.
3. Braided funding strategy.
4. Alignment between programs and workforce needs.
5. Rigor, flexibility, and support throughout program design and implementation.

### Key Implementation Challenges

1. Generating start-up funding and maintaining sustainability.
2. Reporting and measuring programmatic outcomes.
3. Ensuring students' preparation for Delaware Pathways' rigor.
4. Ongoing alignment to an evolving labor market.
5. Gathering information on WBL experiences.

# The Creation of Delaware Pathways: From Inspiration to Executive Order

Coming out of the Great Recession, Delaware's growing middle- and high-skill job market offered the greatest opportunities for sustainable employment.

Like many states in the U.S., communities in Delaware face “high rates of poverty, low rates of educational attainment, limited economic security, and poor health outcomes.”<sup>3</sup> Delawareans felt these economic pressures acutely in 2014. On the heels of Delaware’s last two major automobile plants (Chrysler and General Motors) closing, as well as a merger between two major chemical companies (DuPont and Dow Chemical), the Great Recession saw a decline in low-skilled, high-paying jobs.<sup>4</sup> Leaders also began to realize that the state relied too heavily on just a few large employers.<sup>5</sup> Meanwhile, advances in technology and globalization were creating more high-skill jobs across sectors. In 2016, 62% of Delaware’s existing jobs and 69% of projected job openings through 2024 were classified as either high-skill or middle-skill.<sup>6</sup> Middle-skill jobs, in particular, offered higher wages without requiring individuals to incur the expense of a four-year degree. In looking at these trends, state leaders saw a need to graduate high school students with the right skill sets to meet labor market demand, thereby keeping jobs in Delaware.

Fortunately, in 2014 Delaware already had a solid foundation of locally developed career pathways programming. To graduate high school, students in Delaware were required to complete a pathway of their choice, defined as “three credits of pre-planned and sequential courses ... designed to develop knowledge and skills in a particular career or academic area.”<sup>7</sup> The inter-district open enrollment policy allowed students to attend any publicly funded school in Delaware, regardless of where they lived in the state, meaning that theoretically, students could access any pathway offered at a school within their reach.<sup>8</sup> These policies, when combined with the economic outlook in 2014, created a favorable system that enabled the development and scale of the future Delaware Pathways.

**Gov. Markell urged public and private sector leaders to invest in a state-led career pathways program that would prepare high school students for a meaningful career aligned with labor market demand.**

Markell was inspired by a prominent report, “Pathways to Prosperity,” published in 2011 by Harvard’s Graduate School of Education.<sup>9</sup> The authors argued that increasing labor market demands, along with widening skills and opportunity gaps, required broadening postsecondary pathways and strengthening structural supports for young people as they transition into adulthood.<sup>10</sup> One of the co-authors, Robert B. Schwartz, built on these findings by collaborating with the national organization Jobs for the Future (JFF) to launch pathways programs in various states. In early 2014, a chance encounter allowed Markell to meet Schwartz and learn more about creating a pathways program in Delaware.<sup>11</sup>

The first step was to get buy-in from influential stakeholders across the state. The governor’s office invited a group of public and private sector leaders to hear a presentation from Schwartz and talk about the potential for a statewide pathways program. Members included representatives from the Delaware

Departments of Education, Labor, and Economic Development, as well as the Delaware Chamber of Commerce and Workforce Development Board; the president of Delaware Technical Community College (Delaware Tech); the president of Delmarva Power; the chairman of the Vision Coalition (a group advocating for education reform); and the CEO of Rodel, a local nonprofit focused on education. Although the meeting participants were initially hesitant, Schwartz was able to convince them that Delaware Pathways was not going to be just another program. Half an hour after his presentation, the program creation was a go.<sup>12</sup>

Delaware then joined JFF's community of states that were creating and implementing similar programs, called the Pathways to Prosperity Network. Rodel, the Delaware Business Roundtable Education Committee, the governor's office, and the Delaware Department of Education (DDOE) each contributed \$25,000 to cover the \$100,000 participation fee, officially launching Delaware Pathways. To learn more about pathways programs and see how they work, Schwartz invited Paul Herdman, Rodel's president and CEO; Mark Stellini,

CEO of Assurance Media in Delaware and New Castle County School Board member; and Luke Rhine, then-director of Delaware's Career and Technical Education (CTE) office, on a trip to Switzerland in October 2014, where similar pathways programs have a long history. The visit convinced Delaware's leaders that the program was right for their state.

In January 2015, Markell announced the "Delaware Promise," setting the goal that by 2025, 65% of the state's workforce will earn a college degree or professional certificate, and every student will graduate from high school prepared for continuing education and a career.<sup>13</sup> The Delaware Promise committed "educators, employers, policymakers, and community-based organizations" to work collaboratively and invest in Delaware Pathways, with the goal of (a) ensuring that all youth would have an opportunity to fulfill their postsecondary potential, and (b) enabling Delaware's workforce to "compete in a global economy."<sup>14</sup> Delaware Pathways became a centerpiece to achieving the Delaware Promise.

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*“[Delaware Pathways] made sense at all levels. It was an easy story to tell for employers, business folks, and policymakers: ‘Our kids need a leg up.’ It made sense with parents, and students saw it as a plus ... it’s been a relatively smooth almost-decade of growth because I think it just made sense as a policy idea.”*

—PAUL HERDMAN, PRESIDENT AND CEO OF RODEL

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**Developing the first pathways required intense business and education sector collaboration to ensure that programming incorporated workforce-aligned skills and competencies.**

Planning for the first pathway — Advanced Manufacturing — began immediately, building on an existing Delaware Tech program that trained at-risk students in construction trades. By establishing a partnership among Delaware Tech, local school districts, and employer partners, the program provided a foundation on which to build the state model.<sup>15</sup> Delaware Tech and DDOE leaders then sought industry representatives through the Delaware Manufacturing Association to determine the key competencies needed for entry-level employment.<sup>16</sup> The curriculum developers were adamant that Delaware Pathways be aligned with the needs of the labor market; however, industry leaders were not used to communicating with the education sector about the skills and competencies they needed from the workforce.<sup>17</sup> After four months of ironing out the details, both parties were able to develop the pathway in time for the 2014-15 school year: Advanced Manufacturing launched in the Colonial and New Castle County Vocational-Technical school districts, enrolling 40 students (27 of whom completed it two years later).<sup>18</sup>

At the same time, both DDOE and Delaware's Department of Labor (DDOL) were working to determine which other industries should be prioritized for the development of future pathways. Using data on occupations and the level of education they required, DDOL staff classified jobs as high-skill, middle-skill, and low-skill.<sup>19</sup> These classifications were codified in Delaware's biannual "Occupation & Industry Projections" report and published online through a new platform, the Economic Development and Employer Planning System (EDEPS).<sup>20</sup> They also identified which occupations were "high-wage" and/or "high-demand," then aggregated data to create "career clusters." By basing pathway development on labor market information, program administrators could strategically plan investments, such that many of those career clusters have now become pathways.<sup>21</sup>

Additional pathways quickly followed Advanced Manufacturing. The Culinary & Hospitality Management pathway was based on a local effort at William Penn High School in New Castle County to replace home economics with "a culinary arts curriculum that focused on cooking for restaurants," while Code.org pilot programs in Los Angeles and Chicago inspired the Computer Science pathway.<sup>22</sup> In 2015, DDOE also launched the Biomedical Sciences and Engineering pathways. In total, five pathways were developed within the first two years of the program: Advanced Manufacturing, Culinary & Hospitality Management, Computer Science, Biomedical Sciences, and Engineering.



**The stakeholder working group was codified into a Steering Committee in 2016, and published a strategic plan in 2017 that set the direction for future Delaware Pathways growth.**

While administrators at DDOE and Delaware Tech were developing the first five pathways, the original working group drafted a strategic plan to guide Delaware Pathways' long-term trajectory. Using a catalytic \$2 million grant from JPMorgan Chase & Co., members of the working group met twice monthly to conduct a diagnostic assessment of Delaware's career preparation systems.<sup>23</sup> Through that process, they identified five distinct priority workstreams, each of which would be led by different governmental or nongovernmental entities (Sidebar 1).<sup>24</sup>

In February 2016, the group published a draft strategic plan — the Delaware Pathways Initiative Partnership Agreement — and asked for feedback from the community. Throughout comments, two themes emerged: (a) the need to engage more community-based organizations and (b) the need to support students with disabilities. As a result, the group created plans to work with organizations like the Boys & Girls Club, libraries, the DDOL Division of Vocational Rehabilitation, and organizations that represent students with disabilities to provide in-school and after-school supports.<sup>25</sup>

As planning and implementation moved forward, the original working group evolved, bringing in K-12 district administrators, more business representatives, and members from community-based nonprofits. On Aug. 11, 2016, the group formed a Steering Committee via Markell's Executive Order No. 61 and in 2017, they released the official Delaware Pathways Strategic Plan.

**Since 2016, a lot has changed in the world and for Delaware Pathways.**

While reports from JFF (2017) and R Street Institute (2020) have captured key moments in the program's evolution, it is time for a comprehensive update that incorporates developments from the past few years into the larger Delaware Pathways story. The next section describes Delaware Pathways' growth and impact and showcases current efforts in 2023.

#### SIDEBAR 1

##### **Delaware Pathways Steering Committee Five Priority Workstreams**

1. **Build** a comprehensive system of career preparation for grades 7-14 that aligns with the state and regional economies (led by DDOE).
2. **Scale and sustain** meaningful WBL experiences for students in grades 7-14 (led by Delaware Tech).
3. **Integrate** education and workforce development efforts and data systems (led by DDOL).
4. **Coordinate** financial support for Delaware Pathways (jointly led by Rodel and the United Way of Delaware).
5. **Engage** employers, educators, and service providers to support Delaware Pathways (led by the Delaware Workforce Development Board).



# Looking Ahead: Delaware Pathways in 2023 and Beyond

Over the past nine years, Delaware Pathways has grown significantly, with more than half of the state's eligible high school students enrolled in 24 different pathways.

Today, Delaware Pathways offers 24 pathways across 12 career clusters, growth that largely reflects both student and industry demand.<sup>26</sup> Based on 2021 data from the Economic Development and Employer Planning System, Delaware Pathways' programs of study cover 12 of the 16 career clusters that offer middle- or high-skill jobs, are high-wage, or are in high demand (Table 3).

**TABLE 3: DELAWARE PATHWAYS' ALIGNMENT WITH ECONOMIC DEVELOPMENT CAREER CLUSTERS**

Career Cluster	Delaware Pathways	Middle-Skill	High-Skill	High-Wage	High Demand	Employment Growth (2020-2030)	Average Wage in 2021
Agriculture, Food & Natural Resources	Yes	X			X	11.3%	\$36,174
Architecture & Construction	Yes	X		X	X	12.7%	\$55,635
Arts, A/V Technology & Communications	Yes	X	X	X	X	1.8%	\$57,331
Business Management & Administration	Yes		X		X	0.1%	\$63,141
Education & Training	Yes		X	X	X	5.3%	\$63,458
Finance	Yes	X	X	X	X	3.2%	\$90,161
Government & Public Administration	No	X	X	X	X	3.5%	\$63,392
Health Science	Yes	X	X	X	X	16.4%	\$75,608
Hospitality & Tourism	Yes	X			X	18.9%	\$31,092
Human Services	No		X		X	14.9%	\$44,729
Information Technology	Yes		X	X	X	2.6%	\$100,968
Law, Public Safety, Corrections & Security	No	X		X	X	6.1%	\$45,282
Manufacturing	Yes	X			X	3.5%	\$47,670
Marketing	No	X	X		X	4.6%	\$51,447
Science, Technology, Engineering, & Mathematics	Yes		X	X	X	2.2%	\$108,947
Transportation, Distribution, & Logistics	Yes	X		X	X	9.0%	\$45,818

Source: Economic Development and Employer Planning System, "Delaware: Labor Market Summary Data by Career Clusters," accessed July 20, 2023; Delaware Pathways, "Pathways Programs," 2023.

The 2017 Delaware Pathways Strategic Plan also set a goal to have approximately 50% of all students in grades 9-12 enrolled in career pathways by 2020.<sup>27</sup> Despite the COVID-19 pandemic, the program surpassed that benchmark in 2022, with 23,009 students participating out of 44,059 (52%; Figure 1) — a long way from the 40 students in the very first Advanced Manufacturing course.<sup>28</sup> Today, the goal is to reach 80% of high school students by 2025, an ambitious but feasible metric given the program’s historic growth.<sup>29</sup>

**While growth has been steady, patterns in completion and concentration data suggest that some students have limited access to Delaware Pathways.**

In disaggregating 2021 data, we found fairly representative subgroup participation, with all racial and gender groups participating at rates within 3 percentage points of their public school enrollment rates (Figure 2). Low-income students and students with disabilities also participated at rates within 3 percentage points of their enrollment rates; however, English language learners are the most underrepresented, enrolling at just half their rate of enrollment (5% versus 10%).

Despite the mostly fair representation of subgroups in participation rates, greater disparities emerge when analyzing completion rates (i.e., students who completed the three levels of coursework required by a pathway). Notable differences include:

- Male students represent only 32% of pathways completers, far below their rate of participation (52%) and high school enrollment (51%).
- Hispanic/Latino completers fall 7 percentage points below their enrollment rate (11% versus 18%).
- Low-income completers fall 8 percentage points below their enrollment rate (19% versus 27%).
- Completers with disabilities fall 9 percentage points below their enrollment rate (8% versus 17%).
- English language learners fall 8 percentage points below their enrollment rate (2% versus 10%).



## Delaware Pathways

### DEFINITIONS

#### Participant

Measured by the number of students who completed at least one pathways course.

#### Concentrator

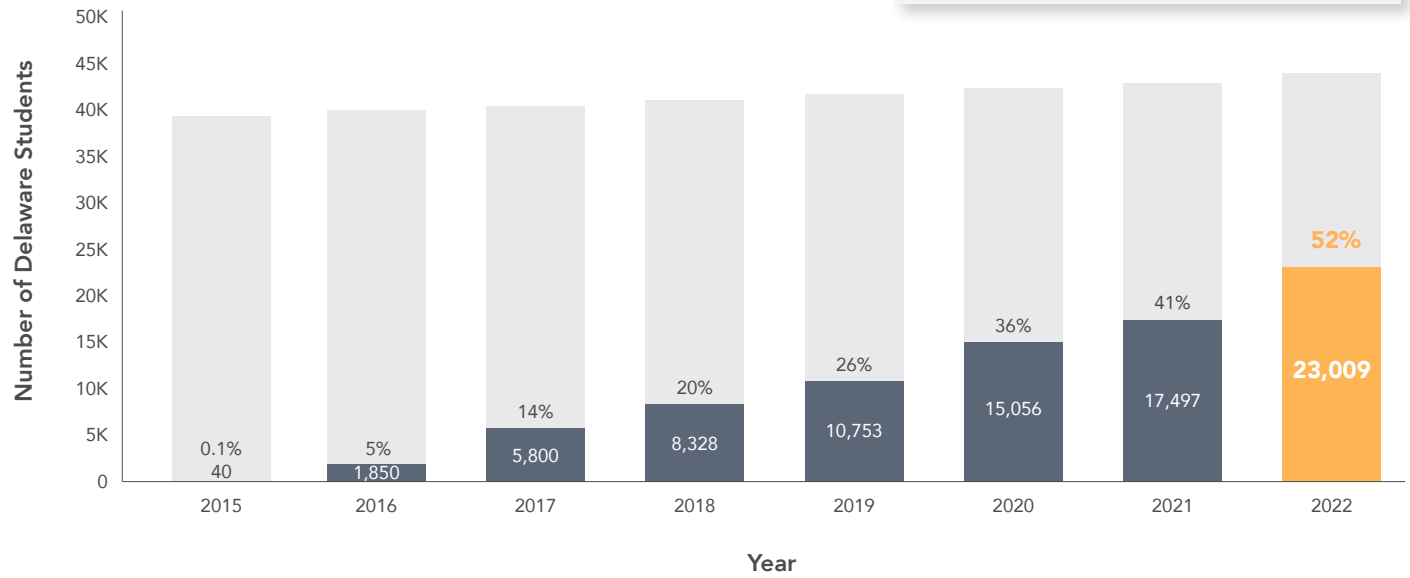
Measured by the number of students who completed at least two pathways courses.

#### Completer

Measured by the number of students who completed the three levels of coursework required by a pathway.

**FIGURE 1: PARTICIPATION IN DELAWARE PATHWAYS (2015-2022)**

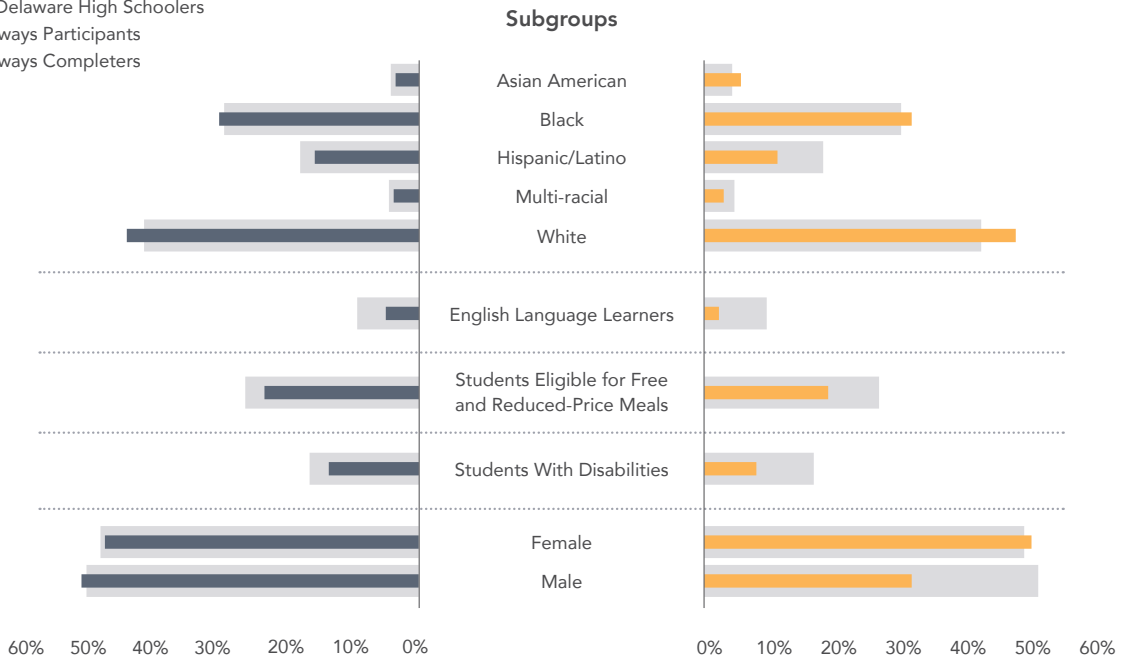
■ Total Number of Delaware Pathways Participants  
 ■ Total Number of All Delaware Students in Grades 9-12



Despite the COVID-19 pandemic, Delaware Pathways surpassed their goal benchmark of 50% participation in 2022, with 23,009 students participating out of 44,059 (52%).

**FIGURE 2: DELAWARE PATHWAYS PARTICIPATION AND COMPLETION (2020-2021)**

■ Percent of All Delaware High Schoolers  
 ■ Delaware Pathways Participants  
 ■ Delaware Pathways Completers



Note: The aggregated data used in these analyses was provided to Rodel by the Delaware Department of Education and shared with Bellwether. Figure 1 and Figure 2 Sources: "State Nonfiscal Public Elementary/Secondary Education Survey," with enrollment data filtered to include 2016–22 and only grades 9-12; US Department of Education National Center for Education Statistics Common Core of Data (CCD), "State Nonfiscal Public Elementary/Secondary Education Survey," 2015–16, accessed July 2023, enrollment data was again filtered for grades 9-12; Rodel, Delaware Public Education at a Glance, 2019, 23; Rodel, Delaware Public Education at a Glance, 2021, 12; Rachel Pleet, "The Power of Partnership: Leading Students Down the Right Path," Rodel.

Although participation rates are relatively representative of statewide student enrollment, disparities in completion rates suggest there are barriers or obstacles along the pathways journey that are impacting certain subgroups but not others.

Finally, in looking at concentration within individual pathways, we found certain subgroups overrepresented (60%+) in specific programs of study:<sup>30</sup>

- Male students were overrepresented in 16 STEM-related pathways (e.g., Manufacturing, Computer Science and IT, Engineering, Finance).
- Female students were overrepresented in nine service-oriented pathways (e.g., Teacher Academies, Health Care, Nursing and Patient Care, Animal Science).
- Hispanic/Latino students were overrepresented in Automotive Technology (71%).
- White students were overrepresented in nine pathways:
  - Automotive Technology (88%)
  - Cisco Networking (79%)
  - Natural Resource Management (78%)
  - Agricultural Structures and Engineering (67%)
  - 3-credit Engineering (66%)
  - 6-credit Engineering (60%)
  - Academy of Business Information Management (65%)
  - Agricultural Power and Engineering (63%)
  - Animal Science & Management (63%)

Besides White and Hispanic/Latino students, no other racial groups were considered overrepresented (60%+) in a pathway; however, Black students are heavily concentrated in Culinary & Hospitality Management, while Asian American students are mostly concentrated in Computer Science.

These disparities necessitate a closer look at students' journeys throughout a pathway to better understand whether the patterns in the data can be ascribed to student preferences, or whether there might also be biases, barriers to access, or other explanations. For example, lower rates of academic achievement (as measured by grades or test scores) may be preventing some historically underserved students from entering certain pathways. In addition, not every pathway is offered at every school, and while Delaware's choice policy allows students to enroll in any school offering the pathway of their interest, lack of transportation can still prevent students, especially those in rural communities, from taking advantage of the opportunity or from accessing WBL opportunities.<sup>31</sup>

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**Disparities in completion rates suggest there are barriers or obstacles along the pathways journey that are impacting certain subgroups but not others.**

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## **Understanding patterns in Delaware Pathways participation and long-term impact is challenging, but promising efforts are underway.**

School systems track several outputs from Delaware Pathways — including participation, concentration, and completion rates — and report the data to DDOE for aggregation. Other benchmarks of participation (e.g., certifications earned) are also collected and used as part of the state accountability model. One interviewee noted that administrators are not really “squeamish” about data-sharing in Delaware, which has helped them immensely in building and improving pathways programs.<sup>32</sup>

Collection aside, however, analyzing these copious amounts of data has proven elusive at the state level, partly due to capacity and partly due to lack of clarity. Several interviewees noted that one of the most challenging aspects of their work was distinguishing the nuance between the state model (Delaware Pathways) and locally developed pathways, which also include vocational-technical schools’ programs. In the data, state model courses have certain codes that correspond to a particular career cluster, pathway, and level. However, as Delaware Pathways continues to evolve over time, those codes are becoming more complicated, requiring extra analysis to track their development.

Furthermore, measuring the long-term impact of pathways programs remains a persistent challenge across the country. Researchers encounter difficulties in accessing and matching students’ education and employment data, while certain desirable outcomes are not easily quantifiable. For example, a student might make a valuable connection who helps them throughout their career, or they might find out that they are not well suited to the first pathway they chose. Both situations could produce a net positive outcome for the student but might not be reflected in outcome data.

Despite these challenges, Delaware’s efforts to measure impact include a third-party evaluation conducted by RTI International in 2021 and an ongoing effort by RTI International to survey and interview students in the classes of 2022 and 2023 regarding their experiences.<sup>33</sup> In addition, a team at the University of Delaware is evaluating access to Delaware Pathways by examining student participation rates and linking participation to high school graduation, enrollment in higher education, employment status, and wages.<sup>34</sup>

## **Ongoing initiatives are working to expand equitable access through greater support for students with disabilities, as well as expanding via “Delaware Pathways 2.0.”**

Delaware Pathways administrators heard the need for more support for students with disabilities as early as 2016, when the original working group received community feedback on its draft strategic plan. In response, the Steering Committee sought and received a U.S. Department of Labor grant to (a) create on-ramps so students with disabilities could participate more easily; (b) identify relevant supporting services; and (c) conduct training for teachers, counselors, and special education coordinators so that they could better support students with disabilities.<sup>35</sup> Currently, DDOE is also partnering with the National Alliance for Partnerships in Equity to identify gaps in access and ensure that students can participate in Delaware Pathways to the fullest extent possible.

In 2022, state leaders embarked on Delaware Pathways 2.0, which includes deepening the program’s impact in high school and growing WBL opportunities. Delaware’s vocational-technical high schools will also work to ensure their high school and adult education programs are aligned to better facilitate the transition after graduation.<sup>36</sup>



The key feature of 2.0, however, is a new focus on “Increasing Equitable Opportunities Through Early Exploration with Middle Schoolers.”<sup>37</sup> The idea is to give every student the information they need to make decisions on what works best for them early on. When the time comes to choose a high school and pathway, the goal is for students to be on more level footing with each other, rather than relying on incoming social and/or cultural capital. These pilot programs are set to launch in the 2023-24 school year in nine middle schools across Delaware. Though each program’s design varies, all are based on guidelines created by a committee that includes educators, parents, students, and business leaders.<sup>38</sup>

Although the goal of expanding into middle schools is to broaden students’ access to career possibilities earlier, some worry that the current variation in pathway availability will end up limiting students’ exposure to just those programs in their specific school or district. In the long run, the program might then replicate current patterns of student awareness and participation, rather than addressing biases or inequities.<sup>39</sup> Nonetheless, administrators are optimistic that the pilots will help students better understand their interests, build connections between their current education and future careers, and prepare for future employment.<sup>40</sup>

# Lessons Learned

Over the course of two months, we interviewed 19 stakeholders, including Delaware Pathways visionaries, researchers, nonprofit intermediaries, higher education leaders, national contributors, and K-12 administrators at the state, district, and school levels. Our interviews focused on the design of Delaware Pathways, its initial development, and implementation challenges, as well as factors that contributed to the successful adoption and scaling of the program. Our two goals were to (a) surface lessons learned for Delaware stakeholders and (b) identify key moves that stakeholders in other states could replicate (see our accompanying playbook, [Scaling Opportunity: A Policy Playbook for Effective Statewide Career Pathways Programs](#)). This section is not meant to be a comprehensive review of Delaware’s implementation tactics, **but these lessons learned recount Delaware’s replicable efforts and actions, which could be essential for policymakers in other states working on similar pathways programs.**

Some interviewees suggested that certain aspects of Delaware — most notably its size — facilitated faster implementation and scaling than would be possible in other states. Yet, despite being the second-smallest state in the country, Delaware often serves as a “microcosm” of the United States.<sup>41</sup> Business, industry, and commerce are concentrated in two heavily populated cities in the northern part of the state, while the southern half contains large swathes of agricultural regions, particularly in the southernmost county of Sussex.<sup>42</sup> The population of Delaware is also growing increasingly racially diverse: As of 2021, almost 60% of public school students identified as students of color.<sup>43</sup> These economic and demographic trends are not unique to Delaware.

Moreover, the success factors and challenges that rose to prominence in our research are applicable in many states. For example, one interviewee pointed out that “other states also have federal Perkins funding, which is allocated proportionally to the number of students in your state ... so when you think about the policy and funding levers that Delaware pulled, those are available in every state context.”<sup>44</sup> While building, implementing, and scaling career pathways programs may require more coordination in larger states, the resources Delaware leveraged are available to all states. The following are Delaware’s critical factors for success and key implementation challenges:

**TABLE 2: DELAWARE PATHWAYS LESSONS LEARNED** (repeated)

Critical Factors for Success	Key Implementation Challenges
<ol style="list-style-type: none"><li>1. Steadfast public-private partnerships.</li><li>2. Clear vision, effective plan, and strong leadership.</li><li>3. Braided funding strategy.</li><li>4. Alignment between programs and workforce needs.</li><li>5. Rigor, flexibility, and support throughout program design and implementation.</li></ol>	<ol style="list-style-type: none"><li>1. Generating start-up funding and maintaining sustainability.</li><li>2. Reporting and measuring programmatic outcomes.</li><li>3. Ensuring students’ preparation for Delaware Pathways’ rigor.</li><li>4. Ongoing alignment to an evolving labor market.</li><li>5. Gathering information on WBL experiences.</li></ol>

## 1. Steadfast public-private partnerships across sectors, built on intentional relationships, served as a backbone for the collaboration required to develop and scale Delaware Pathways.

Forging and sustaining intentional relationships at every level and stage of Delaware Pathways' development were key drivers of its ongoing success. While the governor's office might have initiated the conversation, it is clear from the 2017 Strategic Plan and 2023 stakeholder interviews that those involved not only felt committed to the program's success, but also gave each other credit for the roles that they played. This, along with other relationship-building efforts, such as offering technical assistance, funding, and/or connections, allowed leaders to build trust and mitigate conflict. For example, the three vocational-technical high schools had already established strong partnerships with local employers. Local administrators of these programs initially feared that Delaware Pathways would undermine their long-standing pathways programs.<sup>45</sup> Yet, by building on some of the highest-quality local programs and bringing extra resources or capacity, Delaware Pathways administrators were able to offer something valuable that smoothed the way to collaboration.

The fact that so many different state agencies were involved with Delaware Pathways meant each department had to learn how the other worked. For example, DDOE frequently worked in partnership with mostly autonomous districts, but DDOL had no similar counterpart and was accustomed to creating and executing policy with only Delaware's Workforce Development Board. Interviewees admitted that this created some friction; however, with increased intentional communication, leaders were ultimately able to better understand the agencies' different ways of working.<sup>46</sup>

Partnerships with nongovernmental organizations were critical to the development of Delaware Pathways. Not only did these organizations provide technical assistance, but the nonprofit and business sectors also engaged different communities and gathered buy-in to generate additional partnerships in the following ways:

- Established under the second priority in the 2017 Strategic Plan, Delaware Tech's Office of Work-Based Learning (OWBL) coordinated WBL experiences for both schools and employers by making connections, creating resources and trainings, and guiding employers through hosting high school students.<sup>47</sup>
- Community-based organizations like United Way of Delaware convened local employers and created comprehensive supports (e.g., soft skills support and equipment donation) that helped marginalized students participate.<sup>48</sup>
- Rodel was uniquely positioned as a locally focused intermediary with flexible funding, expansive relationships, and the credibility and capacity to lead convenings, research, planning, and communication — all of which were key to catalyzing efforts and keeping the momentum going.<sup>49</sup>
- The business sector served as "the first real champion of Delaware Pathways," contributing seed money and industry expertise toward developing the initial programs.<sup>50</sup>
- Outside of Delaware, membership in JFF's Pathways to Prosperity Network facilitated access to technical assistance, research and resources, and expertise in career pathways policy.<sup>51</sup> It also allowed Delaware Pathways' leaders to connect with peers and see what other states were doing.<sup>52</sup>

The variety of stakeholders and their partners was not just a demonstration of goodwill in Delaware, but offered tangible strategic implications. This cooperation opened up sources of funding that might have been closed to a single entity, and engaged folks who might not have otherwise been brought to the table.



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*“The Delaware example is one that can be replicated. I don’t want people to read about us and think, ‘Oh, it had to be easier because they’re so small.’ It’s gone magnificently well for Delaware Pathways, and that was not because we’re small — it’s because we’re focused on relationships.”*

—DAN CRUCE, CHIEF OPERATING OFFICER AT UNITED WAY OF DELAWARE

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## **2. A clear vision, effective plan, and strong leadership facilitated smoother collaboration, mutual accountability, and greater alignment across stakeholders.**

Delaware’s collaborative mindset brought stakeholders to the table, but their efforts might not have been as cohesive without the creation of the 2015 Delaware Promise and the 2017 Delaware Pathways Strategic Plan. These guiding documents were essential for the original working group — and later, the Steering Committee — to strategically align efforts across workstreams. Throughout the drafting process, stakeholders co-created their roles and responsibilities by providing input on plan and milestone developments. Those months of collaboration built a common purpose and shared understanding among the key actors and prevented major conflicts or standstills in the work.<sup>53</sup>

Stakeholders were able to coordinate strategic efforts (such as raising funds or engaging the community) across different implementation levers because they all understood and were aligned with the vision and goals of Delaware Pathways. During the early development stages when the working group met every other week, the Strategic Plan worked as a road map for project management and accountability, against which they could compare progress and problem-solve the day-to-day issues.<sup>54</sup> Luke Rhine, the former state director of CTE who spearheaded program implementation,

noted that program administrators adopted a practice of “cascading responsibility” in order to prioritize what was important for both individual partners and the group.<sup>55</sup> The strategic plan helped to establish clear expectations for each partner and areas where a shared solution was best.

Sustained support and leadership from the governor’s office also helped Delaware Pathways overcome challenges.<sup>56</sup> Both former Gov. Markell and current Gov. John Carney have championed the program and made it a priority for investment and energy. When the program launched, Markell built bridges, invited people to the table, cultivated the resulting coalition, and helped to handle disagreements.<sup>57</sup> He continually highlighted Delaware Pathways in his State of the State addresses and was willing to invest in the resources and team that the program needed, allowing state administrators to focus on program development and implementation. Since then, Carney has continued that strong executive leadership, speaking at the annual Delaware Pathways conference and ensuring that attention on the program is sustained. His actions have allowed the momentum of the past near-decade to continue without faltering, even through the pandemic.

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*“It’s absolutely impossible to have an effective statewide program without a shared vision. Before you even start implementing, you’ve got to get everybody on the same page and looking at the same goal so that you’re not all hearing the same words but thinking different things. [The shared vision] is critical to success, and it’s worth the time it takes to get everybody there.”*

—SHANA PAYNE, EDUCATION DIRECTOR AT JOBS FOR THE FUTURE

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### **3. Braiding funding across workstreams allowed Delaware Pathways to stay resilient, flexible, and aligned with its strategic plan.**

Rather than looking for a single source of funding, Steering Committee members braided funding from private grants, federal grants, and state agency budget allocations to push the program forward. In addition, throughout the program’s expansion, leaders were careful to link future funding to expansion plans so that the availability of future funding would not constrain or cut current programming.<sup>58</sup>

In the early development phase, state budgets did not yet account for the creation of a new program, so philanthropic grants were key to getting the first pathways off the ground and scaling the program as quickly as possible. Certain grants were targeted toward specific efforts, such as local energy company Delmarva Power’s \$720,000 donation to create an energy-focused pathway, or Capital One’s \$100,000 contribution to setting up the OWBL at Delaware Tech.<sup>59</sup> Another \$2.6 million in grants from Bank of America and JPMorgan Chase & Co. (one of the largest employers in Delaware) was dedicated solely toward scaling the program and expanding participation.<sup>60</sup> In 2016 alone, private philanthropy dedicated \$3,275,000 to supporting Delaware Pathways.<sup>61</sup>

Meanwhile, federal and state funds augmented philanthropic funding to finance implementation efforts at the state and local levels. Federal legislation such as the Strengthening Career and Technical Education for the 21st Century Act (Perkins V), the Workforce Innovation and Opportunity Act (WIOA), and more recently, the American Rescue Plan Act (ARPA) directed funding toward CTE programs. Administrators included Delaware Pathways in the state’s plans for these federal programs and used the federal funds to help districts set up and maintain pathways programs. Additionally, DDOL and Delaware Tech received large grants from the U.S. Department of Labor to support industry certifications and expand apprenticeship programs. At the state level, the Delaware Departments of Education, Labor, and Health and Social Services have all contributed funding, with the DDOE now spending most of its CTE budget on Delaware Pathways.<sup>62</sup>

The strategy of blending funding was consistently cited as critical to Delaware Pathways’ success, as it allowed both the program and the school systems implementing it to direct money where it would be most effective. Fundraising efforts were organized according to the

strategic priorities set by the strategic plan, but each Steering Committee member brought their own social network to the table, opening doors that otherwise might have been closed. Each member also supported the others in writing grant applications, sourcing data, or bringing in different perspectives. The partnership itself signaled to funders that sustained commitment was “front and center” for Delaware Pathways, assuaging fears of one-off productions.<sup>63</sup>

As leaders commenced Delaware Pathways 2.0, they have continued braiding public and private funding by combining \$8.3 million from the ARPA and the governor’s office with another \$7.5 million from Bloomberg Philanthropies, the Walton Family Foundation, American Student Assistance, JPMorgan Chase & Co., and the Delaware Business Roundtable Education Committee.<sup>64</sup> The resulting \$15.8 million was catalytic for the expansion into middle schools, demonstrating the continued success of the braided funding strategy.

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*“[Stakeholders] had a set of shared priorities that set them up to start braiding funding. When there was a grant opportunity, whether it was from the U.S. Department of Labor, philanthropy, or somewhere else, they went after it together in support of Delaware Pathways, regardless of who the fiscal agent was. They were able to leverage lots of different sources using that structure.”*

—CHARLOTTE CAHILL, ASSOCIATE VICE PRESIDENT OF THE PATHWAYS TO PROSPERITY NETWORK

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#### **4. Aligning pathways programs to labor market information and workforce needs provided greater value to both students and employers.**

From the very first working group, DDOL had a seat at the table and brought a workforce development lens to program discussions. One interviewee noted that this seemed unique in the Pathways to Prosperity Network; labor representatives were rarely at the annual convenings.<sup>65</sup> DDOL and its collaboration with the Workforce Development Board was crucial to Delaware Pathways’ success. Not only did the agency have access to additional federal funds, but DDOL administrators were also able to integrate Delaware Pathways’ work into their own programs when appropriate, allowing for better alignment across program investments.<sup>66</sup>

For example, DDOL’s caseworkers frequently heard from employers seeking assistance with recruiting or training employees; those conversations informed program development. Similarly, the Delaware Workforce Development Board created liaisons tasked with understanding businesses’ needs; in return for their feedback, employers were informed about Delaware Pathways programs as a potential talent pipeline. Interested businesses could be connected to a program or school, or directed to Delaware Tech’s OWBL for more support.<sup>67</sup>

Aside from engaging businesses, analyzing economic data has also been critical to maintaining Delaware Pathways' relevance and value for both students and employers. The Delaware Workforce Development Board and DDOL regularly compare Delaware Pathways' programs and in-demand occupations.

While it's not quite apples to apples, the practice of using labor market data to inform pathways offerings protects programs' high quality.<sup>68</sup> It also creates an improvement process that weathers turnover, ensuring staff "have a continuous awareness around how education and labor are interrelated."<sup>69</sup>

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*“If you think about workforce development as a business model, our employers are our customers, and we are training people to end up in a job that is family- or life-sustaining. We want to make sure that people are creating wealth, and that businesses have the opportunities to provide the jobs necessary to allow for wealth creation, so we should always be listening to our employer partners.”*

—JOANNA BARNEKOV-STAIK, EXECUTIVE DIRECTOR OF THE DELAWARE WORKFORCE DEVELOPMENT BOARD

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## 5. Balancing program rigor, implementation flexibility, and state support was integral to rolling out and scaling Delaware Pathways.

Although locally developed career pathways already existed prior to Delaware Pathways, the state model brought a higher level of rigor and standardization to this kind of programming. Every state-approved program of study had to (a) be aligned with labor market data; (b) include postsecondary credit, an industry-recognized certification, or both; and (c) incorporate a WBL experience.<sup>70</sup> As a result, Delaware Pathways held value for all students, whether they enrolled in a postsecondary institution, joined the workforce, left their chosen industry, or embarked on another postsecondary pathway altogether.<sup>71</sup>

Rigor, however, did not come at the expense of district autonomy or flexibility. Neither districts nor schools were required to adopt the state model, leaving school systems still in charge of the curriculum they chose to offer students. If they wanted, schools could continue administering their locally developed pathways. Yet many school systems chose to embrace the state model, for two common reasons: (a) the high quality of the program and (b) accompanying state resources. Delaware Pathways came with an employer-informed curriculum, connections to higher education and industry certifications, and a WBL infrastructure that made it more robust than what most individual school

systems could create on their own.<sup>72</sup> For large districts, the turnkey curriculum made it easy to offer to more students, while smaller school systems benefited from the state resources.

DDOE intentionally leaned in to support the expansion of Delaware Pathways, providing increased state funding (courtesy of the braided funding strategy), professional development resources, or capacity building for districts.<sup>73</sup> For example, as Delaware Pathways expanded, districts and schools struggled to find professionals that were qualified in both industry and teaching expertise. In response, Delaware’s State Board of Education and DDOE’s Professional Standards Board developed a new “Skilled and Technical Science” teaching certification, for individuals with six or more years of industry experience who commit to completing a teaching certification program within six years.<sup>74</sup>

At the local level, schools had to hire or realign instructional staff, as well as hire CTE coordinators or adjust counseling teams to handle employer engagement and business partnerships.<sup>75</sup> DDOE provided grants and funding for school systems to make those changes as well as guidance or capacity-building as applicable. Even for vocational-technical schools,

which already had much of the infrastructure needed to implement the state model, DDOE’s support made the process easier.<sup>76</sup> In the event that a school system wanted to elevate a locally developed pathway to become a state model or create a new state-approved pathway, DDOE published a manual that included all the necessary definitions, requirements, implementation steps, and continuous improvement processes involved.<sup>77</sup> Once a school system completed the program adoption process, state funding for pathways programs flowed based on student enrollment, and the state continued to provide technical assistance.<sup>78</sup>

Over the years, DDOE has also aligned the state education accountability model to not only incorporate Delaware Pathways benchmarks (e.g., postsecondary credits or industry certifications earned) but also to match Delaware’s WIOA, Perkins V, and Every Student Succeeds Act (ESSA) plans.<sup>79</sup> Now, the state agency is working to create additional resources that help local administrators understand the alignment between federal and state accountability models.<sup>80</sup> This combination of high-quality programming, implementation support, and continued funding offers something for every school system.

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*“Our philosophy was, the state and school systems were stronger when we worked together. We talked about our programs as ‘opportunity multipliers’ for youth, and we created program models that leveraged the assets of the state and local education communities. So when I would get asked the question, ‘What’s in it for my school and my students?’ I would say, ‘A lot, and whatever is not currently available, we can build it together.’”*

—LUKE RHINE, FORMER DELAWARE DIRECTOR OF CAREER AND TECHNICAL EDUCATION

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## 1. Funding challenges related to startup and sustainability costs end up disadvantaging the students who need high-quality programming the most.

While state resources for implementing Delaware Pathways are significant, startup costs can still overwhelm districts with fewer resources (Sidebar 2). Certain pathways (e.g., Automotive Technology or Culinary & Hospitality Management) require new or updated facilities and technology, incurring hefty capital expenses to establish those spaces.<sup>81</sup> Meanwhile, operating expenses increase with inflation every year, creating competing priorities for local administrators.

Throughout the adoption process, school systems were challenged to get creative with funding. One school in Red Clay Consolidated School District (the largest district in Delaware) eliminated or minimized electives that were not connected to a state model pathway (e.g., pottery, yearbook) and restructured the school day to encourage greater student participation, which meant more opportunities for students to complete a second pathway and thereby increase state vocational funding.<sup>82</sup> At other schools within Red Clay, leadership pooled their local building funds to make districtwide facility upgrades.<sup>83</sup> Once the facilities were set up and students were enrolled and attending, state funding largely covered general operating expenses.

The combination of restricted capital funding and other startup costs, such as staffing or certification, challenged even well-resourced districts. For less-resourced districts, the startup expenses were (and remain) too costly to offer certain pathways. An interviewee gave the example of Indian River High School, located in a Delaware beach town where local restaurants attract tourists: “Everybody wants Indian River High School to have the Culinary pathway, but they can’t raise the local dollars to extend their building to have a kitchen.”<sup>84</sup> This barrier to implementation means students must travel farther to access the pathway they want, placing a higher burden on some who are already disadvantaged. As technology advances and operating expenses grow, startup costs will continue to be a barrier, both to Delaware Pathways’ expansion and to students’ access.



### SIDEBAR 2

#### Access to Capital Funding in Delaware

In Delaware’s education funding system, districts have two avenues to access capital funding:

- The first is the state, where they must submit a request and make their case.<sup>85</sup> Smaller districts or those facing enrollment declines struggle to successfully access those funds, so they must look to local funding.<sup>86</sup>
- Local funding relies on property tax revenue within each district, disadvantaging districts with lower property values.<sup>87</sup>

Moreover, school boards in each district cannot increase the tax rates to raise revenue without calling a referendum, and increasing property tax rates is rarely popular with voters.<sup>88</sup>

Meanwhile, the tasks of maintaining, improving, and updating all 24 existing pathways will challenge the capacity of DDOE's CTE office, which is already responsible for responding to requests for support, increasing equitable access and participation, piloting the middle school Delaware Pathways curriculum, and creating sustainable infrastructure that will survive staff turnover. On the to-do list in upcoming years is updating the oldest pathways to ensure their relevance to the current labor market, which will require reconvening industry stakeholders, determining the changes to be made, and implementing those changes throughout the state. For the future, the CTE office is also considering initiatives such as updating advising and accountability models, increasing supports for students with disabilities, expanding early postsecondary credit opportunities, and working more closely with community-based organizations to increase participation supports for marginalized students.<sup>89</sup>

There is no shortage of work to be done; however, this demand constricts the state's ability to grow Delaware Pathways. Private and one-time federal grants, such as the Elementary and Secondary School Emergency Relief Fund, provided early seed money to develop the existing pathways, but administrators have yet to find an ongoing, sustainable source of funding to continue that development. Meanwhile, DDOE's budget allocation for CTE is at capacity. In the long run, this means that districts will need to use more local funding for pathways' maintenance, expansion, and growth. Well-resourced districts will be in a better position to continue building and maintaining their pathways; some will be able to go as far as developing new pathways according to student demand. However, less-resourced districts will struggle to reach the same level of innovation, hindering those students' access to responsive, high-quality programming and likely creating new (or exacerbating existing) inequities.<sup>90</sup>

## **2. Reporting Delaware Pathways' current impact, as well as measuring the program's long-term outcomes, requires greater coordination across multiple systems.**

Career pathways programs are intended to impact students long after they graduate high school. However, understanding longitudinal postsecondary outcomes requires collecting and analyzing the right data (e.g., college enrollment, employment status, wages), which is difficult. Given limited identification methods, tracking individuals through both education and workforce systems requires a robust data ecosystem, including an interconnected longitudinal database, strong privacy laws and protections, sophisticated technology, and policies and processes that enable high-quality data "collection, analysis, reporting, and use."<sup>91</sup> Challenges in measuring the long-term impact of career pathways programs are not unique to Delaware. Across the country, program administrators struggle due to inconsistent identifiers across state agencies, gaps in key information, different definitions across systems, and generally poor quality control practices.<sup>92</sup>

In Delaware, researchers can connect K-12 data to higher education enrollment via the National Student Clearinghouse, capturing those Delaware Pathways students who matriculated into colleges and universities. However, for students who enter the workforce after graduation, there isn't a repository that collects information on their roles or wages, creating a significant breakage point. DDOL collects some information based on unemployment, but it may not be the most accurate representation of wages in the field, and there is no common identifier on which to match the K-12 data to DDOL's data. In analyzing matched DDOL and DDOE datasets for 2019 graduates, RTI International found that employment data was available for only about 10% of students, which still leaves a significant number without matching postsecondary employment data.<sup>93</sup> Challenges in matching students' K-12 data to information on their postsecondary lives

hinder administrators from articulating Delaware Pathways' general impact, much less describing the program's effects on marginalized subgroups.

In coordination with DDOE, DDOL, and Delaware's Department of Health and Social Services, researchers at the University of Delaware may have found a way around this issue by linking the K-12 and workforce datasets using intermediary data from the Department of Health and Social Services.<sup>94</sup> They also plan to supplement DDOL's wage data with information from the State Wage Interchange System to capture former students who may now be employed in neighboring states.<sup>95</sup> The analysis is still underway; however, if successful, the study will be the most robust attempt to demonstrate Delaware Pathways' impact.

Until then, analysis efforts remain scattered at both the district and state level. While several interviewees described internal efforts to look closely at their participation rates, none mentioned a continuous, coordinated statewide endeavor to evaluate program quality or equitable access and participation. As a result, disparities in access or participation seem to be addressed unevenly throughout the state. Publicly available data is also scarce. On DDOE's "Report Card Snapshot," the College and Career Readiness indicator includes some aspects of Delaware Pathways among its metrics (e.g., Industry Recognized Credentials, WBL experiences), but does not include any program-specific information.<sup>96</sup> Information on Delaware Pathways is also missing from both the state's published Educational Data Reports and the datasets on Delaware Open Data.<sup>97</sup> In fact, the only publicly available data on recent Delaware Pathways participation that we found was in Rodel's biennial report, "Delaware Education at a Glance."<sup>98</sup> The lack of publicly available data prevents interested stakeholders from understanding how Delaware Pathways works, who is accessing the pathways, and how the program's value warrants increased attention and funding from local politicians.

Finally, a key but challenging component to measuring impact is quantifying indirect outcomes (e.g., a student exploring a pathway they ultimately do not complete). Nonetheless, those intangible effects are the ones students tend to talk about the most: In a preliminary review of survey and interview data from the ongoing RTI International study, researchers found that students tend to frame Delaware Pathways' impact on their lives as indirect, but meaningful. For example, after high school one student enlisted in the military, despite having finished the Early Childhood Teacher Academy pathway. The military then led her to a career in finance, a path not intuitively connected to early childhood education. In an interview, the student cited her pathway as influential in developing her career because she found that she liked working on teams in a dynamic environment.<sup>99</sup> Whether it's figuring out their preferences, learning transferable skills, or making key connections, examples like these demonstrate that students are finding value in Delaware Pathways beyond a monetary return on investment.





### 3. Efforts to prepare students must encompass bolstering academic skills, developing soft skills, and increasing advisory support, without which many students are not ready to take on Delaware Pathways' program requirements.

The rigor of Delaware Pathways' offerings requires students to have strong foundations in English language arts (ELA) and math before beginning a pathway. Concerns around student preparation were raised early on, leading the Steering Committee to create an extra course for students who needed help meeting Delaware Pathways' college-level ELA requirements.<sup>100</sup>

However, these concerns persist and are greater in the aftermath of the COVID-19 pandemic. Proficiency rates on the Smarter Balanced Summative Assessment declined for both ELA and math: 63% of students in grade 11 scored proficient or higher in ELA during the 2018-19 school year, while only 42% scored similarly in the 2021-22 school year.<sup>101</sup> For math, the proficiency rate of students in grade 11 dropped from 42% to 30% over the same time frame.

Disparities in proficiency rates should also raise alarms for equitable access to Delaware Pathways. For example, while 47% of all students in grade 11 scored proficient or higher on the SAT's ELA section in 2022, Black and Hispanic/Latino students lagged behind at 30% and 31%, respectively.<sup>102</sup> These achievement gaps were present before the pandemic, but should continue to be an area for attention as administrators consider equitable access and participation in Delaware Pathways.<sup>103</sup>

Another, less tangible issue is the need to build students' soft skills (e.g., time management, customer service, communication), especially for those from historically underserved communities.<sup>104</sup> Certain employers have taken this in stride by integrating soft skills development into their WBL programs. United Way of Delaware, for example, hires students ages 14-15 to do administrative office work over the summer

and builds in soft skills coaching.<sup>105</sup> The Tech Council of Delaware's Yes, We Tech! program issued dual digital literacy and soft skills certifications for interns.<sup>106</sup> Other nonprofits and some schools offer similar soft skills support through classes or after-school programming.<sup>107</sup>

Some stakeholders we interviewed suggested that students' maturity and social development were still impacted by the pandemic.<sup>108</sup> School administrators reported an increase in student discipline challenges and the need for more mental health supports.<sup>109</sup> One program director mentioned that two students she had placed with an employer suddenly stopped showing up to work, but then two weeks later came back to her asking for new placements.<sup>110</sup> With some correction and support, these mistakes might not hurt students' employment opportunities in the long-term, but they do present a challenge for Delaware Pathways as a whole. In a 2019 report from RTI International, the authors noted that "weak soft skills among some students can jeopardize employer relationships and schools' reputations."<sup>111</sup> Interviewees agreed that soft skill preparation was an area that needed more attention.

Finally, students need robust advising support to ensure that they are well-equipped to make decisions related to their Delaware Pathways experiences. While all Delaware students in grades 8-12 are required to have a Student Success Plan, implementation seems to be uneven across districts. The structure and roles of counseling teams and/or WBL coordinators vary across districts as well. While the middle school pilot programs might improve access to information through earlier exposure, several interviewees still admitted the need for dedicated advising opportunities tailored to students' interests and personal circumstances.

## 4. Delaware Pathways must continually realign to changing economic conditions and integrate more closely with higher education systems to better prepare students for the post-graduation transition.

Integration and alignment are especially important for students from underserved backgrounds, who may not have the social or economic capital to transition smoothly into the workforce or postsecondary enrollment. As a result, they might not be able to capitalize on Delaware Pathways' value after graduation to the same extent as their more privileged peers.

For students entering the workforce after graduation, updating pathways is crucial to maintaining relevance to employers, especially in a changing economic landscape. As an example, the Computer Science pathway originally culminated in a Java certification, but employers felt that experience with Amazon Web Services (AWS) was more applicable in the workplace, leading program administrators to change the requirement for the 2019-20 school year.<sup>112</sup> Currently, administrators are assessing various pathways credentials to better signal how certain certifications (e.g., CPR, First Aid) need to "stack" on others in order to lead to employment.<sup>113</sup>

Interviewees also mentioned wanting to see more explicit connections to local businesses that might employ graduating seniors. Barnekov-Staib at the Delaware Workforce Development Board imagined that ideally, "we could map the businesses that are around a high school and signal to the community that, 'If you connected to this high school, this is a pipeline for your workforce.'"<sup>114</sup> Iterations like these that update pathways and expand relationships will stretch DDOE's capacity, so stakeholders will likely need to leverage help from partners like ZIP Code Wilmington, which developed the AWS training.

Delaware Pathways must also integrate more closely with postsecondary education systems so that students can smoothly transition from pathways courses into higher education. Interviewees mentioned needing to focus on (a) increasing opportunities for advanced classes, (b) creating articulation agreements for credit

transfers, and (c) aligning scholarship opportunities so that students who want to transition into higher education are not derailed due to financial burdens. Administrators have made some progress on all three initiatives: Student enrollment in advanced courses has risen by 6% since 2018, administrators are negotiating articulation agreements across the state, and DDOE has revamped postsecondary financial aid by consolidating scholarships and extending eligibility.<sup>115</sup>

Despite this progress, more work is needed. In a 2019 study, RTI International found that only one-third of surveyed parents believed that Delaware Pathways was "appropriate for students entering college immediately after high school."<sup>116</sup> The study's authors attributed this belief to "outdated parent perceptions" about the value of CTE programs, but interviewees believed that greater integration would both combat that stigma and solidify the bridge for students between Delaware Pathways and higher education.<sup>117</sup>



## 5. WBL experiences seem to vary widely by region, industry, or employer, with little existing data regarding access or experience quality.

WBL experiences can be customized to different pathways, employers, and regional offerings, leaving many school systems in charge of arranging these opportunities for students. Most schools and districts rely on CTE coordinators or WBL specialists to connect students to employment. Some schools place that responsibility with the pathway teacher, who ideally has industry connections to naturally facilitate those opportunities. For school systems that created distinct positions, the role may be full-time, part-time, or combined with traditional college guidance counseling. This flexibility in implementation allows districts to preserve long-standing partnerships or work with small businesses. School systems can also find support in OWBL, which was established in 2018 with a \$3.2 million grant from Bloomberg Philanthropies. The OWBL brokers partnerships, provides guidance, and creates tools for school systems, employers, and community-based organizations.

Nonetheless, various implementation challenges still create obstacles. In the early days of Delaware Pathways, certain industries (e.g., manufacturing and health care) had safety restrictions that prevented them from hiring minors or having them on-site.<sup>118</sup> Other industries (e.g., finance, computer science, and engineering) were conditioned to only engage college students, not support high schoolers.<sup>119</sup> Larger employers were reluctant to take on the burden of screening high numbers of candidates for part-time, short-term employment, while smaller or rural communities had fewer businesses and partnership

options to begin with.<sup>120</sup> Local partnerships also suffered when coordinators on either the school or employer side changed, but OWBL, which might provide some consistency that alleviates local turnover, has too small of a staff to engage in every community.<sup>121</sup>

Certain programs have found some workarounds, such as turning classrooms into bank branches to offer opportunities for rural students, or using an intermediary such as Goodwill to handle the human resources processes.<sup>122</sup> However, the flip side of implementation flexibility and creative problem-solving is that students' experiences across the state vary widely, with holistic information about WBL experiences remaining scarce.

A 2021 report from RTI International and Rodel described significant success in the growth of WBL experiences, as measured by number of employers engaged, partnerships formalized, and resources created.<sup>123</sup> Yet the report also recommends increasing data collection regarding the type, duration, and quality of WBL experiences. That data would be crucial to understanding potential barriers to access, student preparedness, and student satisfaction. Unless this is intentionally addressed, ad hoc WBL experiences are likely to inequitably benefit students with social and cultural capital. Ultimately, differences in available or high-quality WBL experiences may be contributing to disparities in pathway completion or even post-pathway employment.

# Recommendations

Delaware Pathways is at an inflection point similar to its founding in the wake of the Great Recession. Amid the pandemic and subsequent economic downturn, today's Delaware Pathways 2.0 stakeholders should heed lessons learned from the past nine years to bolster the program moving forward. **Five policy recommendations emerged in our analysis of the program that can pave the way.**

## 1. Refresh the governance model by reconvening relevant stakeholders more often and considering ways to bring in other stakeholders, such as parents or students.

According to ExcelinEd, “strong governance at the state level sets clear expectations for alignment and quality,” allowing fewer barriers to access and affordability.<sup>124</sup> ExcelinEd highlights empowered leadership, a shared vision, aligned policies, and common metrics as essential pillars for strong governance — all of which Delaware Pathways has exemplified over the past nine years. Yet, although implementation challenges and a pandemic never derailed Delaware Pathways’ success, momentum has slowed. The Steering Committee meets less often, and interviewees note that there are fewer opportunities to share ideas and insights.<sup>125</sup> Recent turnover in leadership and staff means individuals need more time to understand the complexity of the pathways ecosystem in Delaware, whether that includes getting to know all the stakeholders involved or understanding the right policy levers to push the work forward. We also heard that there does not seem to be a clear engagement strategy where interested stakeholders might see themselves fitting in or finding direction. While Delaware Pathways is still innovating, now is the right time to reset alignment among state leadership as well as stakeholders across sectors.

Refreshing the governance model is also an opportunity to bring in new parties who might not have been present for the development of the first Delaware Pathways Strategic Plan. For example, in 2019, RTI International recommended greater parent engagement, and the role of parents and students was surfaced several times in interviews. One interviewee summarized: “If we are building programs for students and young adults, they should not just be sitting at the table for the meal. They should also help plan and prepare the meal, sharing what worked, what didn’t, and what the next meal should be.”<sup>126</sup>

## 2. Develop a renewed vision for Delaware Pathways through an updated strategic plan focused on program sustainability and accessibility.

Delaware Pathways’ success is seen in how quickly it was implemented and scaled. As one interviewee described, the Steering Committee “actually implemented their whole first strategic plan, which people don’t usually do.”<sup>127</sup> However, that has also created an expectation for iteration and growth, which requires even more resources (funding and capacity) than what is currently required and available to sustain the program.<sup>128</sup> As a result, the Steering Committee must turn its attention toward the long-term future of the program.

The time is ripe for a new strategic plan that prioritizes maintaining progress without sacrificing any of the components that make Delaware Pathways high quality. This strategic plan should include financial sustainability and addressing barriers to access for historically underserved students. The drafting process for a new strategic plan should involve a collaborative approach similar to the first round, so that those involved have the chance for input, commitment, and ownership.

Markell's 2015 Delaware Promise set an ambitious vision for the impact Delaware Pathways could and would have over the next seven years. The Carney administration's continued investment and leadership through the pandemic allowed Delaware Pathways to flourish through adversity and expand to middle school. Now, two critical moments are converging in the next year: (a) upcoming gubernatorial transition in 2024 and (b) emergence of results from two substantive studies measuring Delaware Pathways' impact. This is an opportunity for Delaware's leaders to build on the legacies of both Govs. Markell and Carney and use the data to develop a renewed vision for what Delaware Pathways could look like in 2033 or 2035.

### **3. Systematize ongoing data efforts to integrate collection, analysis, reporting, and program iteration into an annual cycle.**

Delaware Pathways has a prime opportunity to learn from the past nine years and use those results to drive innovation. RTI International's study will formally highlight students' voices, giving administrators valuable feedback on how Delaware Pathways can tangibly impact students' lives. Meanwhile, the University of Delaware's longitudinal study will, for the first time, provide a robust assessment of Delaware Pathways' long-term outcomes, including effects on postsecondary enrollment and wages. Coordinating both of these efforts will provide the fullest evaluative picture of Delaware Pathways' strengths and areas of opportunity, which the Steering Committee can use to inform the strategic plan and other efforts going forward.

In the future, as DDOE begins updating the oldest pathways, it will be critical to establish routine evaluation, reporting, and program iteration processes, so that turnover at any one organization does not derail efforts at another. An ideal process could incorporate the research methodologies used by RTI International and the University of Delaware to ensure that program quality is backed with strong, holistic



evidence. This would require dedicating extra capacity and planning, whether by leveraging partners or adding state personnel, but ultimately, the data and conclusions should be published on state dashboards or the program’s website. Not only will this increase the program’s transparency for the public, but it will also aid in engaging stakeholders in program improvement efforts and making the case for continued investment.

#### **4. Address disparities in equitable access and completion rates using the data gathered.**

Historically, career pathways programs were a means to “track” Black and brown students into lower-wage occupations with little room for growth and prosperity.<sup>129</sup> That stigma lingers today.<sup>130</sup> Yet at its core, Delaware Pathways works to address inequity by exposing students to a broader range of potential careers that are life- or family-sustaining, regardless of whether they choose to attend college. Delaware Pathways are high quality, aligned with labor market opportunities, and produce value (e.g., credits and certifications) beyond the K-12 system. Delaware Pathways itself expands opportunities for students — assuming that all students can access the program.

In practice, data shows disparities in completion rates, and interviewees highlighted that more can still be done for students with disabilities, English language learners, and rural students. There seems to be a consensus among stakeholders that something should be done, but before action can be taken, there must be a better understanding of the root causes for these disparities, whether it’s lack of transportation, inadequate academic preparation, or weak soft skills, among others. Additionally, it is currently unclear to what extent each of these affects different communities, and how widespread these might be across the state. Investigating the potential drivers of inequities will be the first step toward addressing them.

Many stakeholders are already working to understand and address barriers to access, albeit separately. For example, DDOL increased awareness and access by

leveraging an existing summer employment program for low-income students. By simply asking, “What pathway are you in?” on the application, administrators could find gaps in awareness, disseminate information, and connect education leaders to low-income families.<sup>131</sup>

Delaware Tech also leverages strong relationships with community-based organizations to proactively engage students before they arrive at the college. POLYTECH High School intentionally cultivates equitable participation by requiring all students in grade 9 to explore every pathway offered before they decide on just one. This approach directly tackles implicit, preconceived notions of who can do what before those beliefs can manifest.<sup>132</sup> Although slightly less robust, New Castle County Vocational-Technical School District and Sussex County Vocational-Technical School District similarly rotate students in grade 9 through six pathways to facilitate greater exposure.<sup>133</sup>

In the future, by coordinating efforts informed by completion or concentration data, administrators could target disparities to amplify Delaware Pathways’ impact for those who need it the most.

#### **5. Expand access to WBL by providing more information and advising for students while involving employers more deeply.**

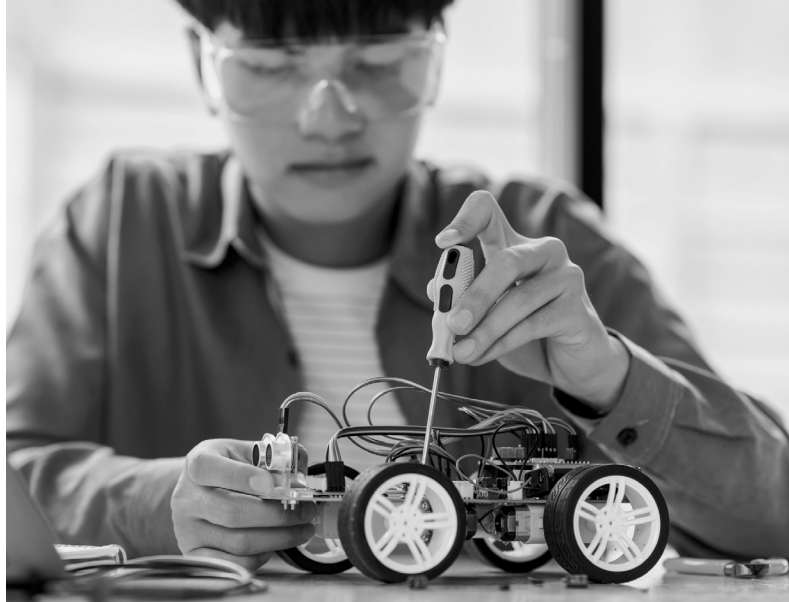
The need for more data on WBL experiences comes not just from an evaluative lens, but also from the perspective of students’ needs. Some students lack the soft skills needed to succeed in a workplace; others require transportation just to get there. Still others work at jobs unrelated to their career pathways program out of necessity and cannot participate in additional unpaid experiences.<sup>134</sup> WBL experiences vary across the state, with no formalized assessment of their quality. Given these circumstances, students lack the information they need to effectively make decisions about participating fully in WBL. They need both information and advising, which in turn highlights a need to invest in more CTE coordinators and counselors. While both the OWBL

and DDOE have invested a considerable amount of resources in WBL, scaling high-quality opportunities and participation in them will require first understanding what WBL looks like across Delaware.

On the supply side, employers will also need to engage in new and different ways. Both our interviewees and past reports lamented that while some in the business community have embraced Delaware Pathways, “about half of [the OWBL’s] partnering employers regard WBL as a community service,” rather than an investment in their talent pipelines.<sup>135</sup> This mindset manifests in a shallower commitment to providing opportunities or sustaining WBL through staff turnover. Administrators fear that “without seeing these programs as creating meaningful returns on investment, employers will lose interest.”<sup>136</sup>

The OWBL is doing its best to change this perspective by catalyzing the creation of industry councils.<sup>137</sup> Inspired by similar bodies in Switzerland, the first council launched in 2020 as the Delaware IT Industry Council and is now known as the Tech Council of Delaware (TCD). TCD provides “an online membership platform, routine training programs, information panels, lobbying efforts, and collaboration between industry, education, and government.”<sup>138</sup> State leaders hope the council will help Delaware “strengthen its place as a national tech hub by building a stronger ecosystem and a more diverse tech talent pipeline.”<sup>139</sup>

Moving forward, the OWBL and Rodel are hoping to initiate similar councils for energy, manufacturing and engineering, and health care sectors. Other strategies include increased incentives for employers and improved infrastructure to engage employers at scale. Ultimately, shifting the narrative from “corporate social responsibility” to “deepening talent pipelines” will be key to scaling Delaware Pathways’ WBL opportunities.



## Conclusion

Delaware Pathways provides an exemplary model for statewide career pathways programming. For nearly a decade, Delaware Pathways has increased the overall quality of career pathways programs, expanded WBL opportunities for students, and provided school districts across the state with the funding and support they need to elevate career programming. Other states looking to develop or grow their own career pathways programs should consider the lessons learned from Delaware Pathways’ implementation successes and challenges. The accompanying [playbook, \*Scaling Opportunity: A Policy Playbook for Effective Statewide Career Pathways Programs\*](#), distills the lessons discussed in this case study into seven key moves that policymakers should pay attention to when implementing or scaling a pathways program.

The link between education, workforce readiness, and skill development has never been more salient. Students are looking for educational experiences that will prepare them for a career with economic security, while both states and employers are looking to education as a driver of talent pipelines and a way to meet labor market demands. In response, career pathways programming must be high quality, aligned with the labor market, and accessible to all. ✨

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## About Bellwether

Bellwether is a national nonprofit that exists to transform education to ensure systemically marginalized young people achieve outcomes that lead to fulfilling lives and flourishing communities. Founded in 2010, we work hand in hand with education leaders and organizations to accelerate their impact, inform and influence policy and program design, and share what we learn along the way. For more, visit [bellwether.org](http://bellwether.org).

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