



Delaware Pathways Outcomes Study — Final Report

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Executive Summary

The Delaware Pathways Outcomes Study examines the role of high school career pathway programs in shaping students' transitions to postsecondary education and the workforce. Drawing on survey and interview data from three cohorts of graduates (2022–2024), the study analyzes outcomes at multiple points after graduation, including 6, 18, and 24 months. The report focuses on key indicators such as postsecondary enrollment, employment patterns, wage outcomes, and the alignment between students' pathways and their subsequent education and careers. It also explores variation across pathway fields, with particular attention to high-demand areas such as health sciences, education, and construction. A central emphasis is placed on the role of immersive work-based learning (WBL), such as internships, apprenticeships, co-ops, and clinical placements, in supporting both educational progression and early career outcomes. In addition, the report examines students' career interests, access to advising, and perceptions of how well their pathways prepared them for life after high school. By integrating these analyses, the study provides a comprehensive picture of how pathway participation influences early postsecondary and workforce trajectories. The findings are intended to inform state and local efforts to strengthen career-connected learning systems and improve alignment between education and labor market opportunities.

Key findings

Work-based learning: The report finds that about half of pathway graduates completed an immersive WBL experience during high school, with higher participation rates in vo-tech than comprehensive high schools. Participation in WBL is associated with stronger post high school outcomes, including higher rates of postsecondary enrollment six months after graduation and a greater likelihood of securing pathway-aligned employment 18 months after high school. These patterns suggest that WBL may play a distinct and complementary role within career pathways by strengthening early connections to the labor market, particularly for graduates who enter employment soon after high school.

The study's results highlight the role of career pathways and WBL in shaping students' transitions into postsecondary education and the workforce. The findings point to several overarching themes.

- **Work-based learning strengthens postsecondary and employment outcomes.** About half of pathway graduates completed an immersive work-based learning (WBL) experience during high school, a rate that places Delaware among the leading states

in the nation for WBL participation, alongside states such as Iowa and Tennessee. Participation in WBL was higher among students attending vocational-technical high schools than among those in comprehensive high schools. WBL participation was also associated with stronger postsecondary enrollment six months after graduation and a greater likelihood of securing pathway-aligned employment 18 months after high school, suggesting that WBL plays a complementary role within career pathways by strengthening early labor market connections, particularly for graduates who enter employment soon after high school.

- **Career pathway completion appears more strongly associated with postsecondary alignment than early employment alignment.** About three-quarters of pathway graduates enrolled in further education within six months of graduation, with enrollment increasing slightly by 18 months. Among the pathway fields examined in this study, enrollment was particularly strong among health sciences graduates relative to education and construction/architecture pathways. While employment increased over time, with nearly seven in ten graduates employed by 18 months, pathway alignment was more common in education than in early employment, suggesting pathways may play a stronger role in shaping educational trajectories than immediate labor market outcomes.
- **Pathway-aligned employment, while less common, is associated with meaningful wage benefits.** Most early employment was part-time and concentrated in service-sector industries. Pathway-aligned employment was more common among graduates working full-time and those not enrolled in postsecondary education. Among full-time workers, employment aligned with students' high school pathways was associated with higher wages, indicating that stronger employment alignment may yield important economic returns.
- **The findings point to opportunities to strengthen system alignment and workforce development.** Gaps between educational and employment alignment suggest a need for stronger partnerships between schools and employers to support smoother transitions into relevant careers. At the same time, the wage advantages associated with aligned employment, the benefits associated with WBL participation, and the high in-state retention rate of approximately 90 percent suggest that investments in pathways and WBL can support both student economic mobility and state workforce development goals.

Converging Evidence on Career Pathways and WBL

The study's findings are consistent with broader research and reinforce several common themes in the growing evidence base on the effects of career pathways and WBL on student outcomes.

- **Research supports the importance of structured, labor market-aligned pathways.** Prior research finds career pathways are most effective when they provide clear sequences of coursework linked to postsecondary credentials and careers, particularly when aligned to high-demand occupations and supported by strong advising that helps students and families understand connections between education and economic opportunity (Shoemaker 2025; Lindsay et al. 2024). Recent federal and field-based evidence similarly emphasizes that pathway effectiveness depends on employer engagement, coordination across K–12, postsecondary, and workforce systems, and the integration of both technical preparation and transferable skills that support mobility, even when early jobs do not align perfectly with pathway fields (Bonilla 2020; U.S. Department of Education 2024). This broader evidence is consistent with the study's finding that pathway graduates showed stronger alignment in postsecondary education than in early employment, suggesting pathways may have their strongest initial effects in shaping educational trajectories that later translate into labor market returns.
- **Research supports WBL as an accelerator of career readiness.** National and multistate studies find students who participate in immersive WBL experience are more likely to enroll in postsecondary education, secure pathway-aligned employment, and experience stronger early earnings, particularly when experiences are paid, sustained, and connected to high-quality supervision and mentoring (Jackson and Kurlaender; Torpey-Saboe et al. 2026; 2026 Miller et al. 2025). Research also suggests these effects are often mediated by the quality of employer partnerships, including the extent to which employers provide meaningful work, professional networks, and continued engagement or hiring opportunities, often with support from intermediaries that reduce coordination burdens for schools and employers (Vasquez 2025; Strada Education Foundation 2026). This evidence aligns with the association between WBL participants and positive postsecondary and employment outcomes found in this study, and reinforces the importance of expanding access to high-quality WBL.

Implications and Lessons Learned

Viewed in the context of the broader economic environment and labor force needs in the U.S. and Delaware, the study's results suggest that career pathway systems can play a critical role in closing the gap between the supply of skilled workers and the demands of Delaware's evolving economy. The Delaware findings suggest that career pathway programs can support strong postsecondary enrollment and employment outcomes, particularly when they are intentionally aligned to labor market demand and paired with robust work-based learning experiences. Students appear to benefit most when they have clear career interests that align with their pathway fields, as demonstrated by stronger alignment and persistence in highly selective pathways such as health sciences. Work-based learning emerges as a critical lever, with participants showing higher rates of postsecondary enrollment and a greater likelihood of securing pathway-aligned employment. Given that many students initially work in service-sector jobs, pathways should also explicitly emphasize transferable skills and scaffold continued connection to pathway-related opportunities after high school. Strong partnerships with employers are essential, not only to provide work-based learning placements during high school, but also to support transitions into employment through referrals, hiring, and career guidance.

At the system level, differences in work-based learning access and participation across school types point to the need for state-level infrastructure and technical assistance to ensure more equitable participation. Career advising and exposure to employers remain areas for improvement, as fewer students reported opportunities to connect directly with industry professionals.

Finally, consistent outcome tracking across education and workforce systems is critical for understanding pathway effectiveness and informing continuous improvement in career pathways and WBL strategies. The study also highlights the importance of allowing time after graduation for employment outcomes to materialize, underscoring the value of tracking students beyond the first six months postgraduation. In addition, rigorous studies are needed to determine the causal impacts of the factors explored in this study. The results of this exploratory study show a link between career pathways, work-based learning, and positive postsecondary outcomes, but they do not prove that pathways or WBL directly cause those outcomes, since student and school differences may also play a role.

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Introduction

The Delaware Pathways Student Outcomes Study aims to understand how participation in high school career pathways influences students' experiences, skills, and post-graduation outcomes. The study examines the types of jobs and postsecondary education and training opportunities that graduates pursue, and how these choices align with the pathways they completed in high school. By exploring these connections, the study seeks to determine whether and how pathway participation supports students' transitions to college, training programs, and employment. The study also assesses career efficacy, or students' confidence and ability to manage career-related tasks. This includes setting career and occupational goals and understanding the education and training required to achieve those goals. Together, these indicators provide insight into the role of pathway experiences in preparing students to navigate their futures beyond high school.

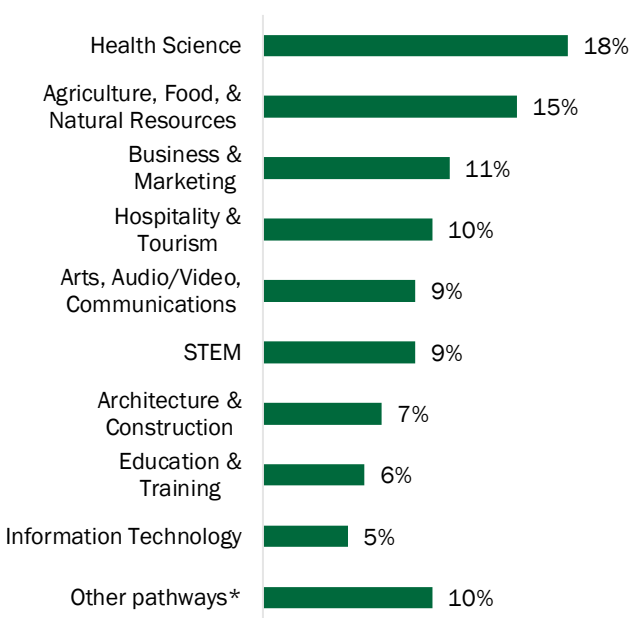
Career Pathway Program Focus

The study focused on high school graduates from 2022, 2023, and 2024 who completed a sequence of career pathway courses as part of a pathway program. These programs, offered in Delaware's public high schools (comprehensive and vocational-technical, also known as vo-tech schools), provide instruction in academic, technical, and employability skills across a range of fields such as health sciences, business, and advanced manufacturing. Students may also earn early college credit through dual credit opportunities and gain work experience through work-based learning (WBL) placements. Pathway programs can be developed locally by school and district staff or follow a Delaware Pathway Program model created by the Delaware Department of Education. This study focused on pathway completers (called "pathway graduates"), or students who complete three courses in a single pathway.

Since the statewide Delaware Pathways initiative began in 2014, pathway opportunities for secondary students have grown with the encouragement of state and local policies supporting pathway development and participation. In the 2022–23 school year, nearly all students (94 percent) enrolled in more one or more career and technical education (CTE) courses (DDOE n.d.). Data comparing change in pathway enrollments over time are limited, but a recent analysis found that the percentage of Delaware graduates who reached concentrator status (2+ courses in a single pathway) increased from 65 percent of high school graduates in 2017 to 69 percent in 2021 (Zubaca 2024). Given the continued emphasis on high school pathways programs, that proportion is likely to have increased further.

For the subset of high school graduates who were pathway completers, our analysis of DDOE data found 6,456 pathway graduates statewide, which accounted for about 66 percent of all 2023 graduates.¹ Agriculture, Food, & Natural Resources (15 percent) and Health Sciences (18 percent) pathways accounted for the largest proportions of students (**Figure 1**). A complete list of the distribution of pathway graduates by career cluster is included in Appendix A.

Exhibit 1. Health science graduates accounted for 18 percent of 2023 pathway graduates statewide.



n=6,456

* Pathway programs in clusters accounting for less than 5 percent of pathway graduates; see Appendix A for the full distribution.

Data source: Delaware Pathways Student Follow-Up Survey and the Delaware Department of Education

Data collection included students from various career pathways but concentrated on three clusters that have been the focus of recent state initiatives to address labor market needs in Delaware: health sciences, education and training, and architecture and construction. This report presents overall findings as well as pathway-specific results for each of these three occupational areas. Appendix A provides additional information on the data collected for this study.

¹ Based on the 9,706 students who graduated with a regular diploma in 2023 (DDOE 2024).

Labor Market Context

Economic data underscore a growing gap between the credentials the labor market demands and the educational attainment levels of young people. The Delaware Pathways initiative began in 2014 as economic changes increased the proportion of occupations requiring postsecondary training across many industries (Mission et al. 2023). With over 60 percent of current and projected job growth requiring some form of postsecondary education (Delaware Pathways 2023), high school and college students who do not pursue further training are increasingly disadvantaged in accessing stable, well-paid work. In 2022, an estimated 48 percent of Delaware youth ages 18–24 hold a postsecondary credential or degree, suggesting that many young adults may be entering the labor market unprepared for available opportunities (Delaware Pathways 2023).

These patterns mirror national concerns about mismatches between the skills employers seek and the credentials students actually earn (Smith et al. 2025; Strohl et al. 2024). In Delaware, talent shortages have been a challenge in a number of industries, such as healthcare (Sabine and Gibbs 2023), K–12 teaching (DDOE 2025), and construction (Staib & Rhine 2025), suggest a need for strengthening career-aligned programs that connect students to in-demand fields. At the same time, broader demographic challenges such as low labor force participation, an aging workforce, and slow population growth, issues that Delaware shares with many U.S. regions, exacerbate these shortages (Delaware State Chamber of Commerce 2025). These conditions suggest that the state cannot rely on workforce growth alone; it must better prepare the students it already has and the much larger pool of adults looking to reskill and upskill.

For high school students, the increased education requirements for decently paid jobs in the United States place youth, particularly those who forego further education, at a disadvantage in the labor market. Without clearer guidance and access to postsecondary preparation and work-based learning, young people risk graduating into low-wage work and higher unemployment. This is evident in the substantially higher unemployment rate among individuals ages 20–24, which was 8.3 percent in 2025, compared with 3.6 percent for those aged 25–54 (BLS 2026).

Why Survey Pathway Graduates?

Despite growing interest in the effectiveness of career pathway programs, longitudinal data on postsecondary outcomes for high school CTE concentrators and pathway completers in Delaware remain limited. State reporting systems, including annual Career and Technical Education accountability reports, primarily provide cross-sectional snapshots of participation

and aggregate placement outcomes rather than tracking consistent cohorts over time. Although recent research initiatives and linked administrative data systems have begun to examine longer-term outcomes, publicly available findings that document trends in postsecondary enrollment and employment across multiple cohorts are still emerging. This study helps address this gap by following multiple cohorts of pathway graduates and examining their education and workforce outcomes at several points after high school. By providing cohort-based, multi-timepoint data, the analysis offers a more detailed and nuanced understanding of early postsecondary transitions than is typically available in state-level reporting. Delaware's statewide longitudinal data system, which is expected to be implemented within the next two years, will have the capacity to address many of the report's core questions and questions beyond the scope of this report, such as how outcomes for pathway completers have changed over time or how they compare to non-participants using consistent longitudinal measures.

In addition, understanding the relationships among career pathway programs, WBL experiences, and students' subsequent employment and educational outcomes is essential for determining how best to support student success during and after high school. However, available data on students' participation in these programs are limited, as is information on the degree to which high school pathway experiences are aligned with postsecondary employment and education. Existing employment records cover only a subset of high school graduates and contain only wage and industry information and lack information (e.g., employer names, job titles, and job responsibilities) that are helpful for assessing the relevance of students' high school preparation to their later employment. Education data systems are not designed to address students' own perceptions of these pathways, including whether their programs align with their career interests or how they understand the connections between their high school experiences and their postsecondary decisions. The survey was therefore designed to generate a more comprehensive and detailed understanding of high school pathways and of students' experiences within them.

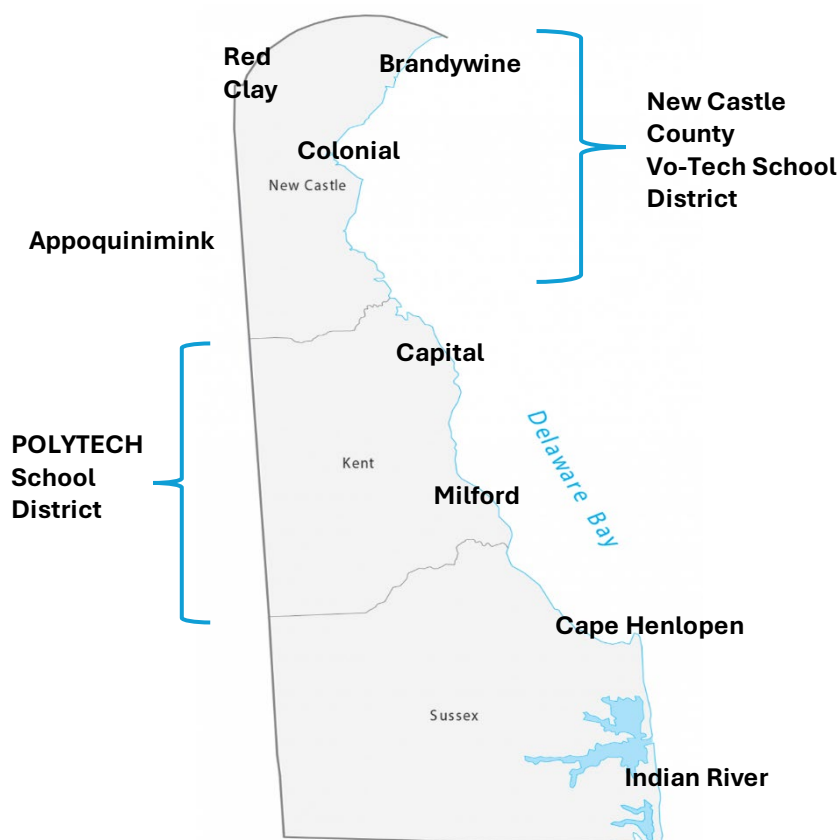
Data Collection and Analysis

The research team partnered with school districts and schools throughout Delaware to conduct the study, which complies with state legislation requiring an annual review of high school student outcomes.² In response to outreach from the research team and Delaware

² An annual study of high school student outcomes is required by the [Delaware Code Title 14, Chapter 1, Subchapter III, Section 156](#).

Department of Education, a total of ten districts (approximately half of all LEAs) volunteered to participate (**Exhibit 2**) in one or more years of the study. The participating districts asked seniors completing career pathways to answer a brief online survey about their high school experiences and provide contact information for follow-up surveys. Because participation was voluntary and baseline data collection was managed by school staff, the study relied on a convenience sample rather than a randomly selected group of students.

Exhibit 2. Over the course of the study, high schools from ten public school districts participated from all three Delaware counties.



Response rates among graduating pathway seniors varied by school, and baseline sample sizes differed by year. RTI conducted follow-up surveys at six months post-graduation for all three cohorts and at 18 months for the 2022 and 2023 graduates; response rates for these follow-ups averaged 70 percent. Graduates who completed the surveys received a gift card for their participation. Survey data were matched with administrative records from the Delaware Department of Education, which provided demographic and other background information.

To ensure that the survey results accurately reflect graduates across all participating schools, data were weighted by school. This adjustment accounts for differences in response rates so that schools with higher participation do not disproportionately influence the findings. As a result, each school contributes appropriately to the overall results, providing a more balanced and representative picture of graduate outcomes.

Because graduates may take a year or more to secure employment, this report focuses primarily on findings from the 18-month follow-up surveys of the 2022 and 2023 cohorts. Where relevant, these results are supplemented with data from the first and third cohorts (2022 and 2024 graduates) and from the six- and 24-month follow-up surveys. Additional details about the data are provided in Appendix A. In response to feedback from school staff and early findings, the study evolved over time, with questions added and refined to improve accuracy and usefulness. For example, a question about alignment between students' pathways and career interests was introduced in the second year.

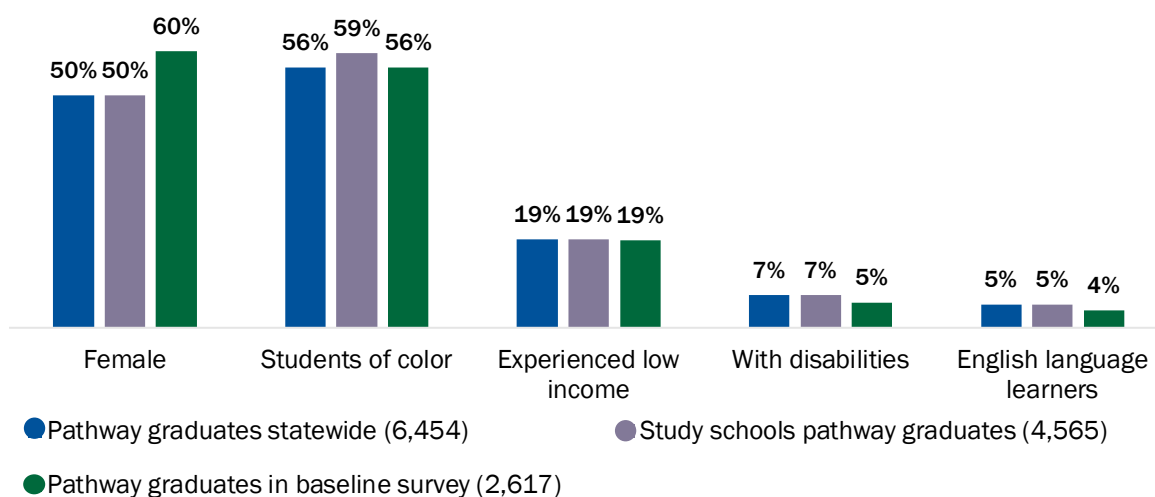
In July 2023 and 2024, the research team conducted interviews with a subset of pathway graduates who had completed the six-month follow-up survey. These interviews provided deeper insights into graduates' experiences, which informed the development of the pathway graduate profiles presented in this report. The graduates' feedback also helped the team refine the follow-up questionnaire's content and questions.

Survey data were analyzed primarily using descriptive statistics to summarize graduates' experiences and outcomes. The research team also conducted statistical tests to examine differences among student groups and explore whether factors such as participation in WBL were associated with postsecondary outcomes. Results significant at $p < .05$ and $p < .01$ are noted. These analyses identified meaningful patterns and relationships while maintaining a focus on overall trends rather than complex modeling.

Demographic and Pathway Representation

The demographic characteristics of students who completed the baseline and follow-up surveys were similar (within 2-4 percentage points) to those of all pathway graduates in Delaware in each of the study cohorts (2022, 2023, and 2024 graduates), with the exception of gender. For example, in the 2023 baseline survey, which has the largest sample of the three cohorts surveyed, 60 percent of the survey respondents were female, compared to 50 percent of pathway graduates across all the schools that participated in the study and statewide (**Exhibit 3**). The higher proportion of females among respondents' reflects research on survey data collection, which has found higher survey response rates among females than males (Wu et al. 2022; Sax 2003).

Exhibit 3. Females accounted for 60 percent of 2023 baseline survey respondents compared to 50 percent of pathway graduates in the study schools and statewide.

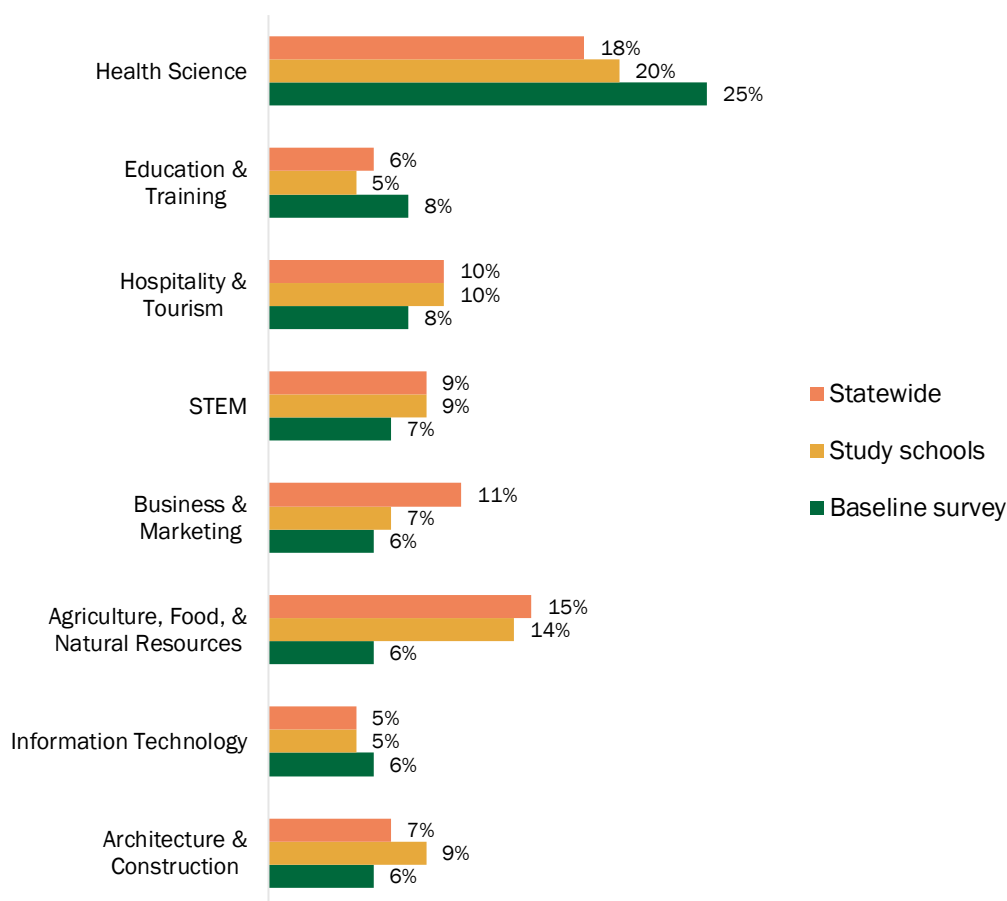


Data source: Delaware Pathways Student Follow-Up Survey and the Delaware Department of Education

The proportion of students of color, students who experienced low income, or who reported disabilities or were English language learners were similar among baseline survey respondents and pathway graduates in the study schools or among all pathway graduates in the state. The close alignment between survey respondents' demographic characteristics and those of all pathway graduates suggests that the survey findings are broadly representative of the student population and furthers the generalizability of the results. However, the overrepresentation of female respondents (consistent with well-documented gender differences in survey response patterns) indicates that the findings may be less valid for male pathway graduates.

In terms of pathway cluster representation among 2023 pathway graduates, health sciences predominate statewide (18 percent), in the schools included in the study (20 percent), and in the baseline survey sample (25 percent) (**Figure 4**). The relatively high proportion of health science pathway graduates in the study sample reflects the study's focus on this field. In contrast, agriculture, food, and natural resources comprised only six percent of the study sample, but 14 and 15 percent of pathway graduates in the study schools and statewide, respectively. Accordingly, the results of this study may be less reflective of graduates of that cluster and the other cluster showing the same pattern, business and marketing.

Figure 4. Health science graduates accounted for 25 percent of 2023 baseline survey respondents and 18 percent of pathway graduates statewide.



n=6,454 (statewide); 4,565 (study schools); 2,617 (baseline survey)

Data source: Delaware Pathways Student Follow-Up Survey and the Delaware Department of Education

Study Limitations

In addition to the disproportionate representation of females and respondents from selected pathways, this study has several limitations that should be considered when interpreting the results. The study focuses on postsecondary outcomes of secondary pathway graduates between six and 30 months post-high school graduation. These are early labor market outcomes, which can change considerably among young adults as they gain experience and earn credentials. For example, research has found that a 20 to 50 percent or more of postsecondary students change their major during their studies (Leu 2017).

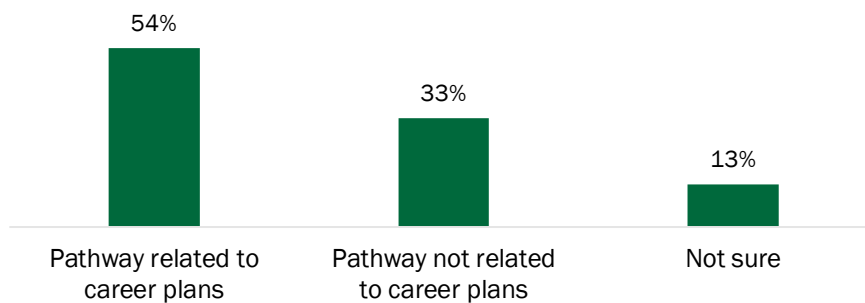
Because the sample was not randomly selected, the findings may not be representative of all high school students or school districts. Survey participation depended on school implementation and student response, which may have introduced differences between

students who completed the surveys and those who did not. In addition, not all students who responded to the baseline survey responded to the follow-up surveys, and sample sizes varied across cohorts and years. Finally, the study relies primarily on self-reported survey data, which may be subject to recall error or differences in how students interpret survey questions.

Career Pathways and Career Interests

Shortly before high school graduation, 12th grade students from each of the graduating classes included in the study (2022, 2023, and 2024) were asked to identify their career pathway from a list of pathways offered at their high school (details about the pathways represented in the study can be found in the appendix). The approximately 10 percent of pathway students who were enrolled in more than one pathway program were asked to select the pathway best aligned with their career interests. In addition, graduates from 2023 and 2024 were asked whether their chosen pathway aligned with their career interests (Exhibit 5).

Exhibit 5. Among 2023 and 2024 graduating seniors who completed a career pathway, 54 percent indicated that their pathway was related to their career interests and plans.

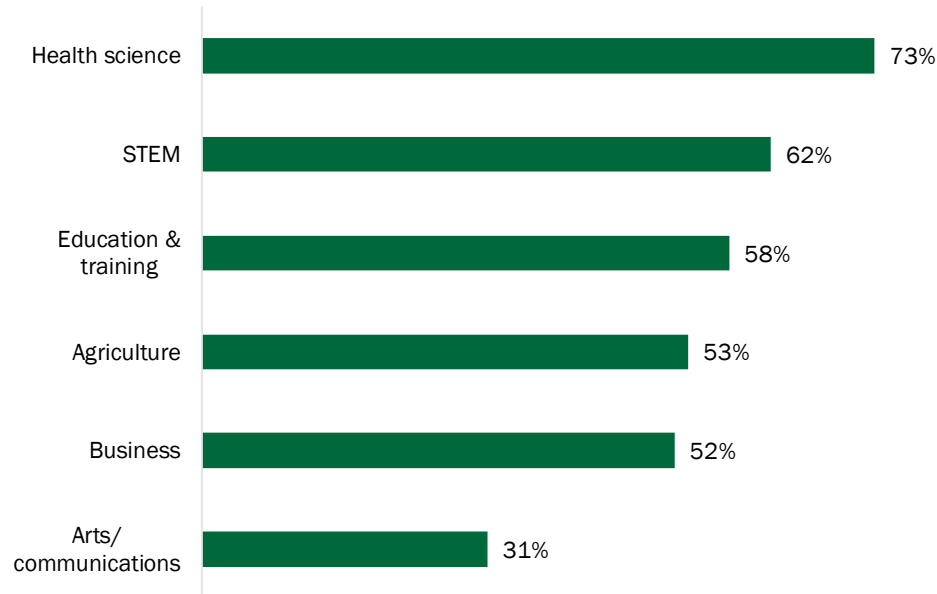


n=2,039

Data source: Delaware Pathways Student Outcome Survey

By high school type, about two-thirds of students in vo-tech schools (64 percent) and just over half of students in comprehensive high schools (54 percent) said their career interests matched their pathway (data not shown). Although these percentages differ, the gap was not large enough to be statistically significant, indicating no clear association between school type and pathway alignment. In contrast, alignment varied across pathway programs. Students in health science pathways were more likely than those in other pathway clusters shown to report that their career interests or plans matched their pathway ($p < .01$) (Exhibit 6).

Exhibit 6. Among pathway programs, health science pathways had the highest proportion of students who reported that their pathway aligned with their career interests (73%, $p < .10$).



n=2,039

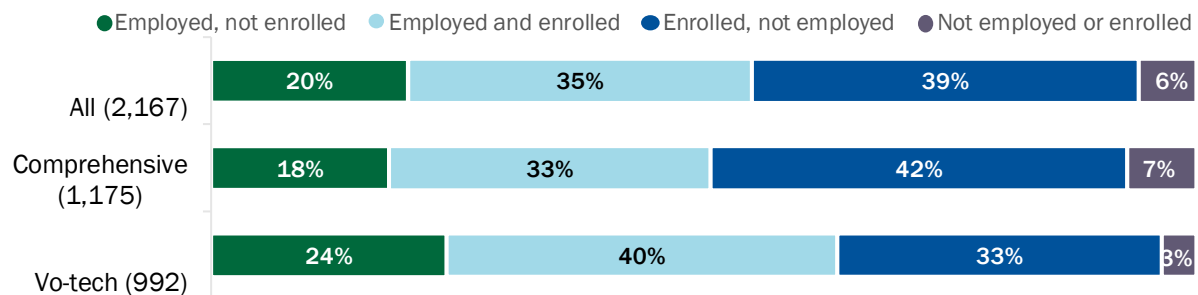
Data source: Delaware Pathways Student Outcome Survey

Interviews with students and district and school staff suggest that the strong alignment between health science pathways and students' career interests is partly due to the programs' popularity. Because health science pathways often attract more applicants than they can accommodate, they tend to enroll students with a clear and primary interest in health science, rather than those for whom it is a secondary choice or who are uncertain about their pathway preferences.

Post-High School Employment and Enrollment

Nearly all pathway completers graduate from high school on time (96 percent in 2022 and 98 percent in 2023) (DDOE n.d.). In contrast, graduation rates among all students were 88 percent in 2022 and 89 percent 2023 (DDOE 2024). Since graduation among pathway completers is nearly universal, this study focuses on pathway graduates' post-high school outcomes. The study collected data from 2022 and 2023 pathway graduates at six and 18 months after high school graduation. At both time points, about three-quarters of graduates were enrolled in postsecondary education (74 percent at six months and 77 percent at 18 months post-high school), and more than half were employed (55 percent at six months and 69 percent at 18 months post-high school) (**Exhibit 7**).

Exhibit 7. Six months after high school graduation, 39 percent of 2022 and 2023 pathway graduates were enrolled in postsecondary education and not employed and 35 percent were enrolled and employed.



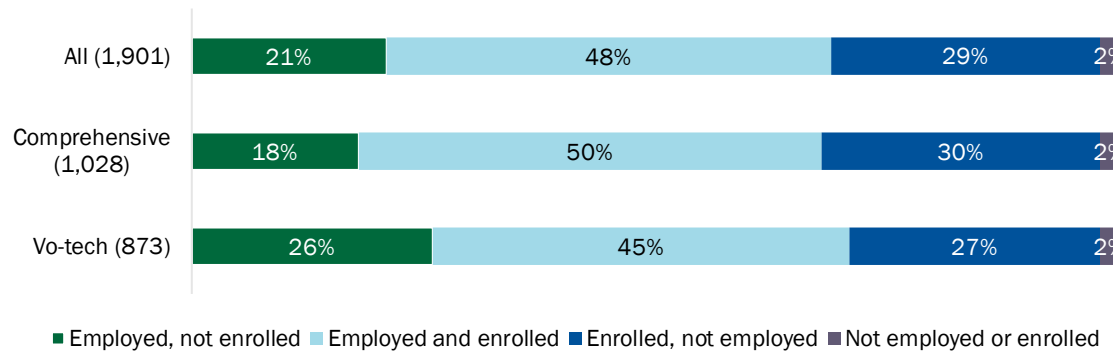
Data source: Delaware Pathways Student Outcome Survey, Delaware Department of Education

Over time, the proportion of high school graduates enrolling in higher education by age 19 in Delaware has grown from about 74 percent in 2010 to about 81 percent in 2019 (Gonzalez 2020). Comparable data on the postsecondary outcomes of pathway graduates is pending publication of the results of an ongoing study examining CTE programs of study in Delaware from 2010 to 2020 (NCER n.d.).

Eighteen months post-graduation 77 percent of the pathway graduates in the study sample were enrolled in postsecondary education (**Exhibit 8**). Graduates of comprehensive high schools were more likely to be enrolled in postsecondary education six- and 18-months post-graduation ($p < .05$). At six months post high school, 75 percent of comprehensives were

enrolled vs. 73 percent of vo-tech graduates; at 18 months, the percentages were 80 and 72, respectively.

Exhibit 8. Eighteen months post-graduation, the proportion of 2022 and 2023 pathway graduates who were working and enrolled was 48 percent, up from 35 percent six months post-graduation ($p < .05$).



Data source: Delaware Pathways Student Outcome Survey, Delaware Department of Education

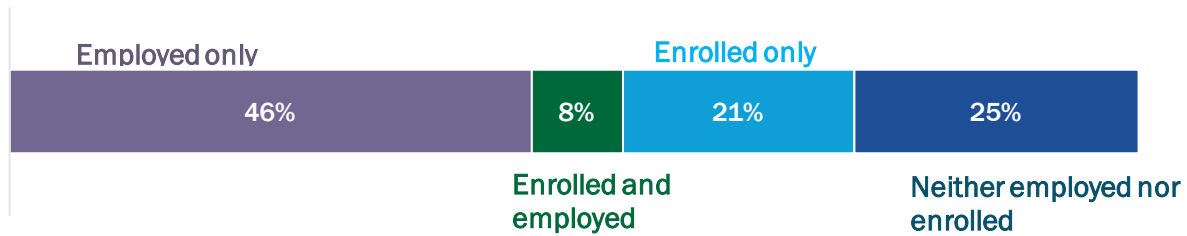
A higher proportion of pathway graduates of comprehensive high schools than vo-tech high schools reported being unemployed or not enrolled six months after graduation ($p < 0.05$), but this difference was not statistically significant at 18 months post-high school.

Among students who were enrolled, female pathway graduates had higher rates of employment while enrolled than males ($p < .01$). These results mirror national-level data, which indicate that the proportion of students working while enrolled increases after the first year and that a higher percentage of full-time female undergraduates were working than (43 percent) than males (35 percent) in 2020 and in 2024 (NCES 2022, BLS 2025).

Graduates Who Were Not Employed or Enrolled 6-Months Post-High School

Over 90 percent of pathway graduates in each cohort reported employment or enrollment in each of the follow-up surveys. However, in each of the three study cohorts, as small proportion of graduates reported that they were not enrolled in further education nor working. In 2023 (the largest cohort studied), these students accounted for five percent of graduates six months post-high school. In the next follow-up survey at 18 months post-high school, 75 percent of these students reported employment and/or enrollment in higher education (**Exhibit 9**).

Exhibit 9. Among pathway graduates who were not employed or enrolled 6 months post-high school, 46 percent reported being employed in the 18-month follow-up survey, and 23 percent enrolled in postsecondary education.



n=75

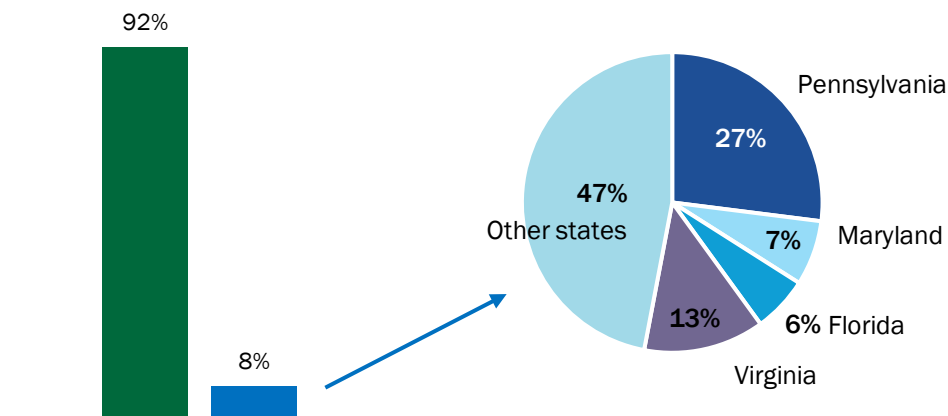
Source: Delaware Pathways Student Outcomes Study Survey, Delaware Department of Education

However, only 61 percent of graduates who were not working or enrolled at six-months post high school responded to the 18-month follow-up survey. As a result, the status of the 39 percent who did not respond is not known and the results should be interpreted with caution. In contrast, the response rate to the 18-month follow-up survey among other graduates (i.e., those who reported employment and/or enrollment six-months post-high school) was 76 percent. Although these results may not be representative of all graduates who were neither employed nor enrolled at six months post-high school, the findings suggest movement in and out of that status, and that some students may need more time to move into employment and postsecondary education after high school.

Where Pathway Graduates Live

Over 90 percent of the 2022, 2023, and 2024 pathway graduates that responded to the follow-up surveys at each time point (six-, 18-, and 24-months post high school graduation) were living in Delaware (**Exhibit 10**).

Exhibit 10. Among 2022 and 2023 pathway graduates, most of the 8 percent of pathway graduates living outside of Delaware 18 months post- high school were in Pennsylvania.



n=1,900

Other states include states that accounted for 5% of out-of-state graduates or fewer

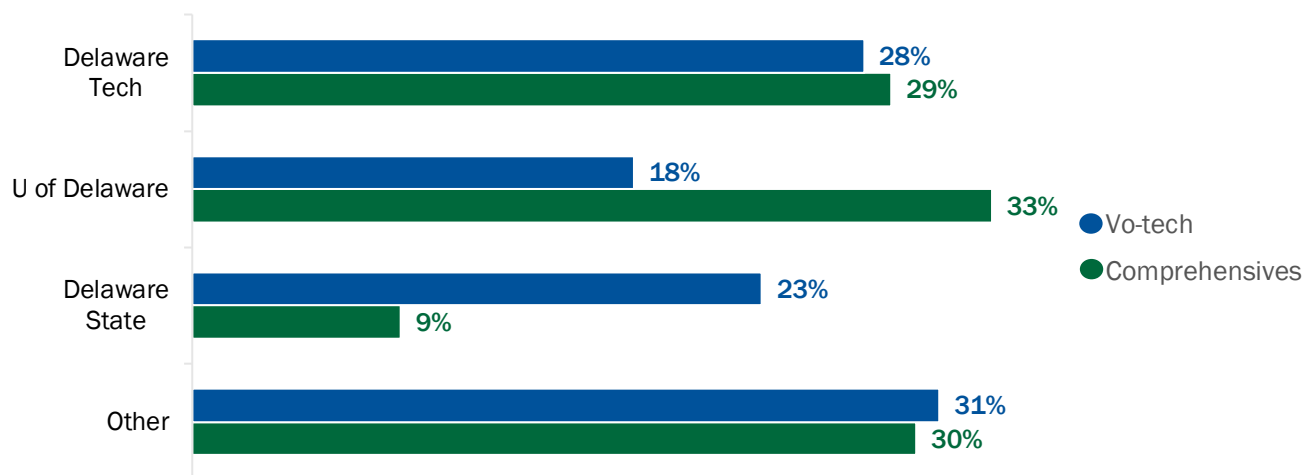
Source: Delaware Pathways Student Outcomes Study

More than three quarters of those living out of state were enrolled in postsecondary education. Pathway graduates attending college out of state attended a wide variety of colleges; no one institution accounted for more than three of the graduates studying out of state.

Postsecondary Enrollment

As noted in the summary of graduate's education and workforce status, about three-quarters of 2022, 2023, and 2024 pathway graduates were enrolled in a postsecondary education program six months post-graduation (**Exhibit 11**).

Exhibit 11. About 70 percent of 2022, 2023, and 2024 pathway graduates who were enrolled in higher education 6 months post-high school attended public institutions in Delaware.



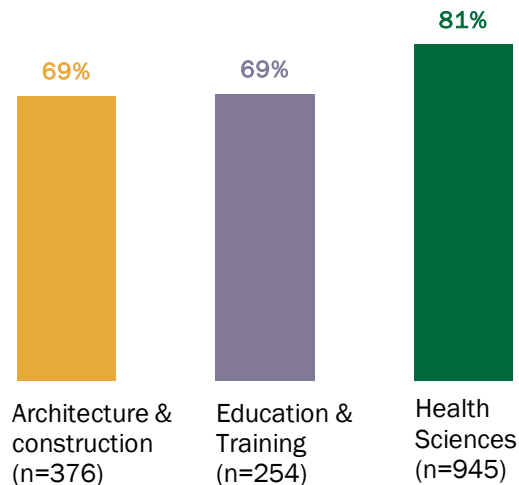
n=1,299

Data source: Delaware Pathways Student Outcomes Study

Just under a third of pathway graduates were enrolled in Delaware Tech. More vo-tech than comprehensive high school pathway graduates attended Delaware State University; the reverse was true of the University of Delaware. Aside from these institutions, institutions attended by ten or more pathway graduates included Wilmington University and Goldey-Beacom College in Delaware, and Nuemann University and Pennsylvania State University in Pennsylvania.

The percentage of pathway graduates who were enrolled in higher education six-months post-graduation varied across the pathways examined, with the highest enrollment rate found for health science pathway graduates ($p < .05$) (**Exhibit 12**).

Exhibit 12. Among 2022 and 2023 pathway graduates, 81 percent of health science health pathway graduates were enrolled in further education 18 months post-high school



Data source: Delaware Pathways Student Outcome Survey

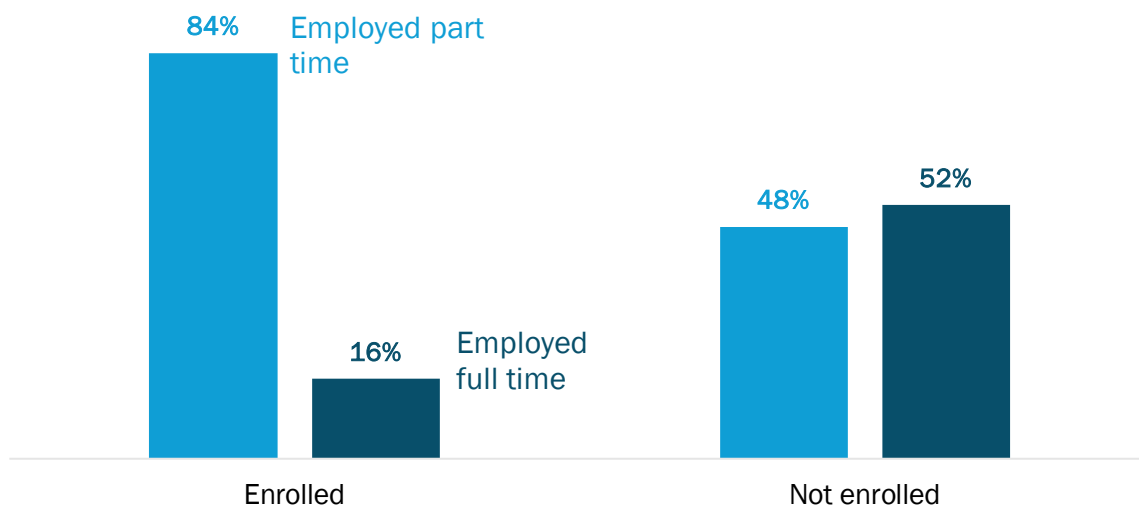
The findings indicate that a substantial majority of pathway graduates continue into postsecondary education shortly after high school, with enrollment rates differing significantly by pathway—particularly higher among health science students ($p < .05$). This suggests that pathway specialization plays an important role in shaping students' postsecondary trajectories and may reflect differences in preparation, access, or career alignment across fields.

The high proportion of pathway graduates who enroll in college and attend in state also likely reflects state-funded programs that provide full tuition waivers. The SEED+ (Student Excellence Equals Degree Plus) program provides tuition-free enrollment for eligible Delaware high school graduates and adult learners pursuing credit, non-credit, or workforce training programs at Delaware Technical Community College. At Delaware State University, the Inspire Scholarship offers four years of full tuition to qualifying Delaware high school graduates who enroll full time immediately after graduation. No official data is available on proportion of students utilizing these resources statewide, but the SEED+ program's low eligibility requirements suggest that many student qualify for and are likely to use the program. Delaware State University reported that 75 percent of its in-state first-year students in fall 2025 were Inspire Scholars, a proportion similar to that from prior years (Irizarry 2025).

Employment

Because research on pathways and WBL has found that it can take time for the effects of these activities to influence labor market outcomes (Miller et al. 2025), the employment analysis focuses on pathway graduates' employment status at 18 months, which the study collected from 2022 and 2023 graduates. At this time point and among the 67 percent of graduates who were employed, about 72 percent reported working part time and 28 percent full time (data not shown), but work intensity varied by whether graduates were enrolled in postsecondary education (**Exhibit 13**). More than half of those not enrolled worked full time (56 percent), compared to 16 percent of those enrolled.

Exhibit 13. Among 2022 and 2023 pathway graduates, 16 percent of those enrolled and 56 percent of those not enrolled reported working full time 18 months post-high school graduation.



n=2,001

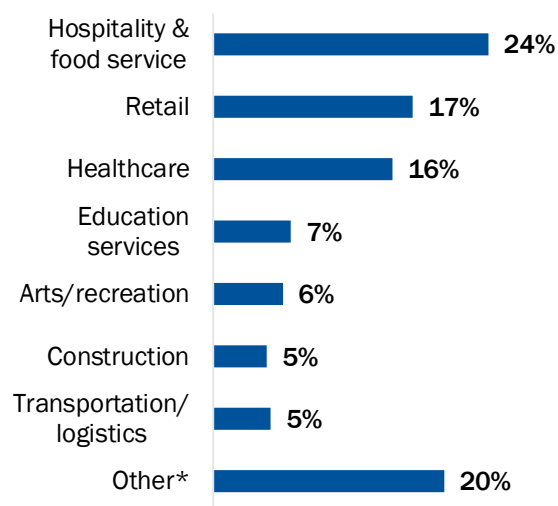
Source: Delaware Pathways Student Outcomes Study Survey

In the follow-up surveys, graduates who were employed were asked to select the industry of their job from a drop-down list. If graduates worked more than one job, they were asked to report on the job in which they work the most hours. Since some respondents' answers to this survey question were inconsistent, the research team reviewed the job titles, employer names, and brief descriptions of their job responsibilities that graduates also provided and updated the industry as needed. Examples of job descriptions provided by graduates employed in hospitality and food service and retail jobs include "I provide excellent customer service to customers. Part of my role at this company is to make sandwiches and a variety of

beverages,” and “I am a warehouse worker. I do different positions at my job, but my goal is to get the packages on the truck for delivery.” Job descriptions in healthcare included, “I work in a medical billing office, and I am a billing specialist. My job is to get insurance claims paid and fight insurance denials to the best of my ability.” The resulting data reflect a combination of respondent- and researcher-selected industry choices.

Among 2022 and 2023 graduates who reported any employment 18 months post-graduation, a plurality was working in hospitality and food service (24 percent) (**Exhibit 14**).

Exhibit 14: Among the 77 percent of 2022 and 2023 pathway graduates who reported being employed 18 months post-graduation, jobs in the service sector (hospitality and food service and retail) were most common.



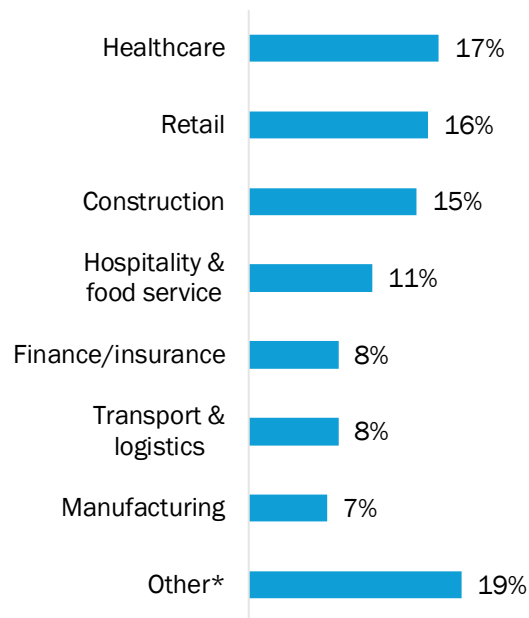
n=1,234

*Occupational areas that accounted for less than 5% of graduates, such as manufacturing and financial/insurance services.

Source: Delaware Pathways Student Outcomes Study Survey

The proportion of graduates working in these industries changes when the analysis is limited to those employed full time (**Exhibit 15**). Among these graduates, the industries employing the highest proportions of graduates are healthcare, retail, and construction (each accounting for from 15 to 17 percent of graduates) and 11 percent are employed in hospitality and food service.

Exhibit 15: Among the 28 percent of 2022 and 2023 graduates who were employed full-time after graduation, 17 percent reported employment in healthcare fields.



n=382

*Occupational areas accounting for 5% of graduates or fewer

Source: Delaware Pathways Student Outcomes Study Survey

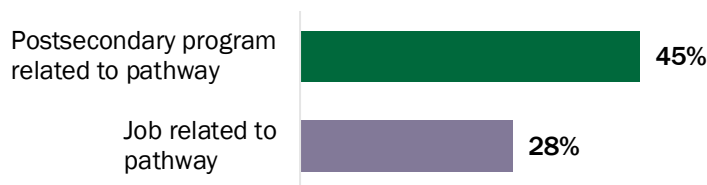
At 18 months post-high school graduation, pathway graduates have high labor market participation but substantial variation in intensity by postsecondary enrollment status. While many graduates are working in service-sector roles, the distribution of full-time employment in fields like healthcare and construction indicates early signs of alignment that may strengthen over time.

Pathway Fields, Jobs, and Postsecondary Programs

The study explored whether graduates’ pursue jobs and higher education in fields related to their high school career pathways. To answer this question, pathway graduates were asked to provide their job title, employer, and a brief description of their responsibilities and their college major. The research team then compared the field of graduates’ high school pathways (at the career cluster level) with their jobs and college majors. Graduates whose employment was in the same career cluster of their high school pathway were identified as having high school pathway related employment. For example, health science pathway graduates working as certified nursing assistants or patient care technologists, culinary arts graduates employed as line cooks, and education and training graduates serving as paraeducators or substitute teachers were classified as aligned. The research team used the same process to analyze students’ fields of study.

The results presented here focus on the largest cohort examined in the study (2023 pathway graduates) at 18 months after high school, when employment rates are higher than at six months post-graduation. The results indicated that 45 percent of enrolled 2022 and 2023 pathway graduates were in postsecondary programs related to their high school pathway (**Exhibit 16**). Under a third (28 percent) of those employed were in related jobs.

Exhibit 16. Among 2022 and 2023 pathway graduates who were enrolled or employed, 45 percent of those enrolled had majors in the same cluster as their high school pathway 18-months post-graduation.



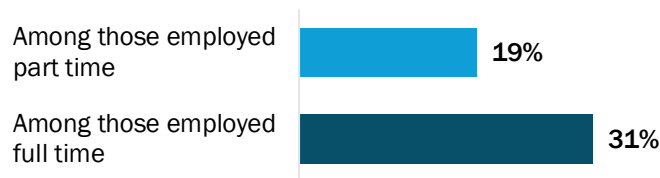
n=1,335 for employment and 1,329 for enrollment

Data source: Delaware Pathways Student Outcome Survey, Delaware Department of Education

Even at 18 months post high school, however, the early labor market experiences of many high school graduates may be part-time or transitional and not reflect graduates’ longer-term career plans, which may require postsecondary credentials. Those pursuing further education especially may choose jobs that offer flexibility and accessibility rather than career relevance (Triventi et al. 2025, Scott-Clayton & Minaya 2016). About 37 percent of pathway graduates who were employed 18 months post-high school reported that their job was aligned with their career interests (data not shown).

Accordingly, the study also examined pathway-job relatedness among graduates who were employed and not enrolled in higher education. In 2023 (the largest cohort sample), these students accounted for 22 percent of the students 18 months after graduation, and among these students 51 percent were working part time and 49 percent full time (data not shown). A higher proportion of those working full time (31 percent) than part time (19 percent) reported jobs in the same field as their high school pathway ($p < .05$) (**Exhibit 17**).

Exhibit 17. Among 2023 pathway graduates who were employed and not enrolled in higher education, 31 percent of those working full time had jobs in the same field as their high school pathway 18 months post-graduation.



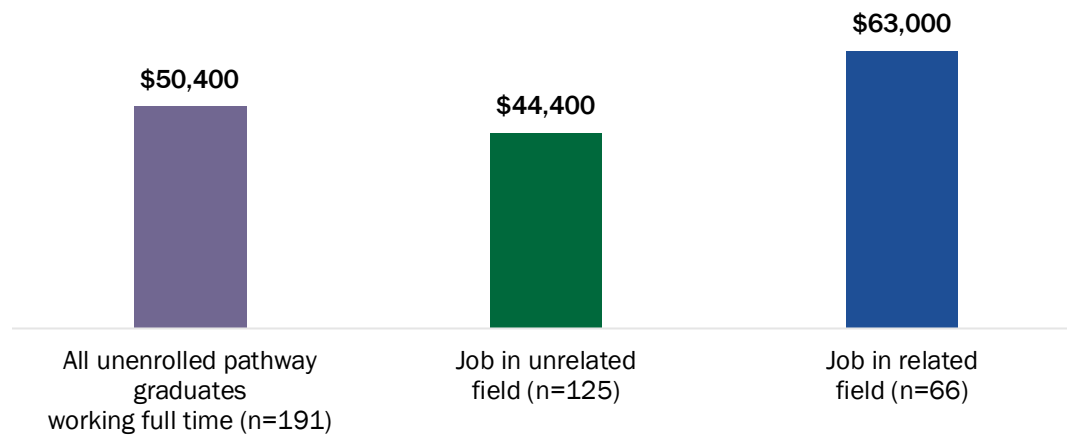
n=361

Source: Delaware Pathways Student Outcomes Study Survey

These findings suggest that pathway-job alignment is more common among graduates who are working full time compared to those working part time. Those employed full time also reported that their jobs were aligned with their career interests at a higher rate (53 percent) than those employed part time (31 percent, $p < .01$). This pattern is consistent with the idea that full-time positions may be more likely to reflect longer-term career trajectories, whereas part-time roles may be chosen for flexibility and may be less closely tied to prior training. Examples of graduates who were not enrolled and working full time in fields related to their high school pathway include an electrical trades graduate working as a lineman for Baltimore Gas and Electric, and a dental assisting graduate working as a patient coordinator in a dental office. At the same time, the fact that less than half full-time workers report alignment indicates that many graduates enter jobs outside their pathway field. Overall, the results point to a modest but meaningful association between full-time employment and pathway-related job placement.

Among 2023 pathway graduates who were not enrolled in postsecondary education and working full time, those employed in jobs related to their high school pathway earned substantially higher annualized wages than those in unrelated jobs (\$63,000 vs. \$44,400). Although the sample sizes are small, these exploratory findings suggest that pathway job alignment is associated with stronger early earnings outcomes (**Exhibit 18**).

Exhibit 18. 2023 pathway graduates who were not enrolled in postsecondary education and working full time reported annualized wages of \$45,000 for jobs unrelated to their high school pathway and \$59,400 for related jobs ($p < .01$).

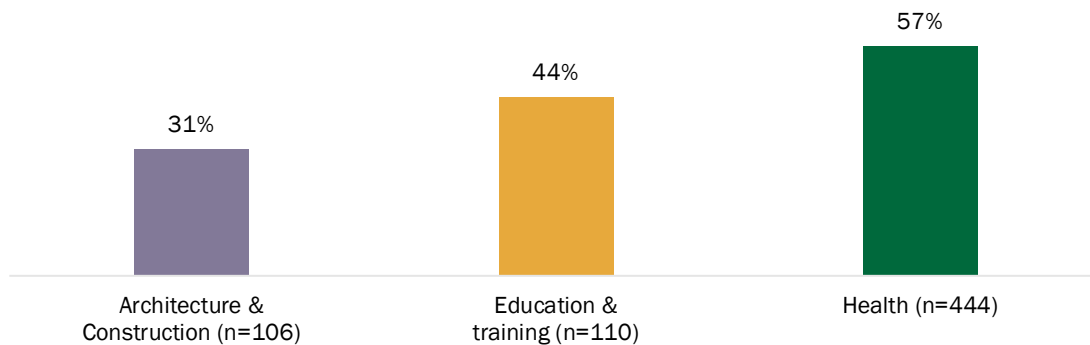


Source: Delaware Pathways Student Outcomes Study Survey

Access to high-school pathway aligned employment when graduates enter the labor market, however, may vary by occupation area and depend on the availability of entry-level positions suitable for recent high school graduates. Fields such as health care offer entry-level employment opportunities that do not require a postsecondary degree, allowing graduates to enter the field at multiple levels. No significant differences in pathway-aligned employment were found among pathway graduates who completed pathways in the fields that are the focus of this study (education, health sciences, and construction/architecture; analysis results not shown), and given the small samples sizes of this study, this represents an important area for future research.

Given that most pathway graduates pursue postsecondary education, educational programs or majors may be a better indicator than jobs of recent high school graduates' interest in pursuing a career related to their high school pathway. As noted at the beginning of this section, nearly half of pathway Among those enrolled, no difference was found in the proportion of health science and education and training pathway graduates who pursued the same or similar field in college (46 and 51 percent, respectively) (**Exhibit 19**).

Exhibit 19. Among 2022 and 2023 graduates who were enrolled in postsecondary education 18 months after high school, more education and health science pathway graduates than architecture and construction pathway graduates were pursuing postsecondary degrees in the field of their high school pathway ($p < .01$).



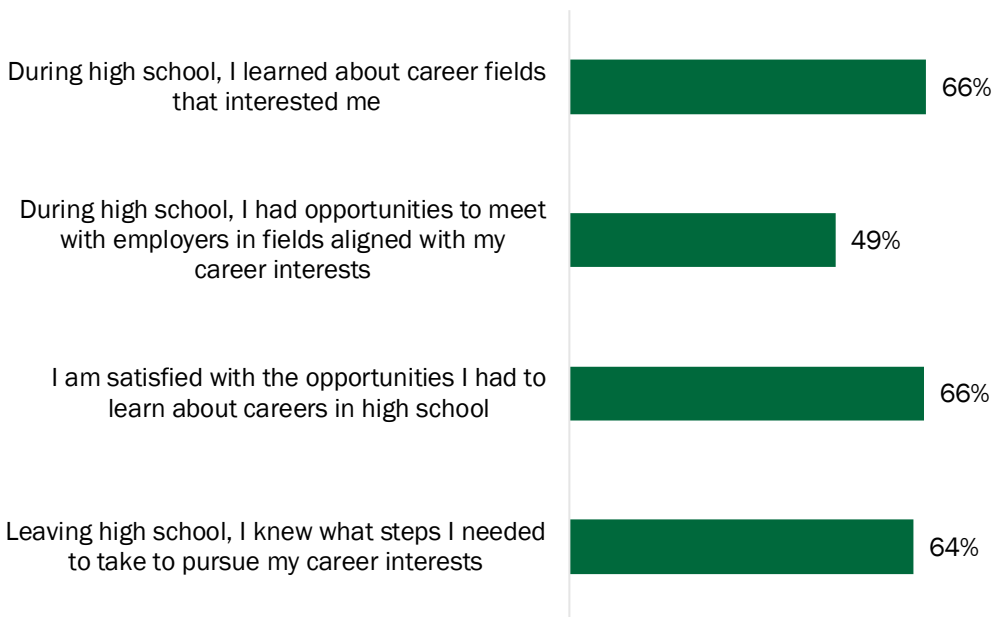
Data source: Delaware Pathways Student Outcome Survey

These findings indicate that high school career pathways can shape graduates' postsecondary trajectories and early labor market outcomes beyond high school, with substantial shares of students pursuing aligned fields of study and greater alignment among those in full time employment. The observed earnings differences among full time workers further suggest that alignment between secondary pathways and early employment may have implications for economic mobility and workforce preparation, reinforcing the potential value of coherent education to career systems.

Career Development

Six months after leaving high school, 2023 and 2024 pathway graduates were asked to rate their satisfaction with the career development support that they received in high school. Two-thirds (66 percent) agreed or strongly agreed that they had learned about career fields of interest during high school (**Exhibit 20**).

Exhibit 20. Among 2023 and 2024 pathway graduates, 66 percent agreed or strongly agreed that they learned about career fields that interested them in high school.



n=2,733

Source: Delaware Pathways Student Outcomes Study Survey, Delaware Department of Education

Among the options, the lowest level of agreement (49 percent), was for having opportunities to meet employers from career fields in which they were interested.

Graduates were also invited to share their recommendations for improving career development opportunities in high school. Some of the suggestions were to increase the amount of the experiences already offered, such as exposure to employers, counseling on topics such financial aid for college, and transitioning from high school to paid employment. Graduates also recommended additional life skills training on topics that included budgeting, managing credit cards and credit scores, and paying taxes.

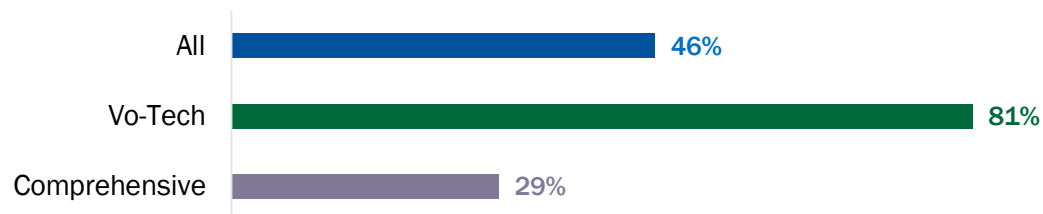
Work-based Learning

In the baseline survey, pathway graduates indicated whether they completed an immersive WBL experience during high school. In vo-tech schools, immersive WBL experiences are mostly co-ops, which offer paid employment and high school credit and generally involve placement on site at the locations of the districts' employer partners. These experiences are typically in the same field as the student's pathway program, but may be in a different field if placement availability or transportation barriers limit options.

Options for immersive experiences are more varied at comprehensive high schools, and pathway students who completed the baseline survey in comprehensive high schools were asked if they completed any of the following options: apprenticeship/pre-apprenticeship, clinical experience, cooperative education (coop), internship, and school-based enterprise. Students were also asked to indicate the length of the experience: most (68 percent) were longer than two months, the remainder lasted one to two months.

In each of the three cohorts included in the study and overall, participation rates in immersive experiences was higher in vo-tech (81 percent) than comprehensive high schools (29 percent) (**Exhibit 21**).

Exhibit 21. Overall, about one-half of 2022, 2023, 2024 pathway graduates reported completing an immersive work-based learning experience during high school.



n=4,176

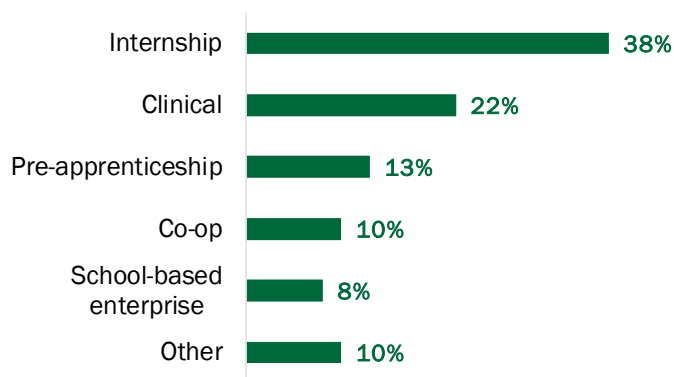
Source: Delaware Pathways Student Outcomes Study Survey

Although state and district strategies for collecting WBL data are still in development and information on WBL participation rates is limited (Goldring and Urban 2024), recent research on WBL have found lower participation rates in other states. For example, a study of New York City high schools found that about 22 percent of students in CTE high schools and 13 percent of students in other types of high schools had participated in a paid or credit-based work-based internship (Kemple 2023). In Ohio, about 10 percent of 2023 high school graduates completed a WBL experience of 250 hours or more (e.g., apprenticeship or internship) during high school (Plasman 2025). Finally, a study of 2018-19 and 2019-20

high school graduates in Pennsylvania found that 17% of students participated in WBL during their junior and/or senior year. The percentage among CTE students was 36 percent and among non-CTE students, 12 percent (Miller et al. 2025).

In terms of the type of immersive WBL completed by pathway student in comprehensive high schools, internships were most common (38 percent), followed by clinicals (22 percent) for students in health fields (**Exhibit 22**).

Exhibit 22. Among 2022, 2023, 2024 comprehensive school pathway graduates who participated in immersive WBL experiences, the largest proportion (38 percent) participated in internships.



n=533

Source: Delaware Pathways Student Outcomes Study Survey

Within each type of high school, WBL participation rates varied by pathway program. In vo-tech high schools, law and public safety and education program students had the highest rates of participation in immersive WBL (94 and 90 percent, respectively) (**Exhibit 23**).

Exhibit 23. Among 2022, 2023, and 2024 graduating seniors in vo-tech high schools, 94 percent of law & public safety students participated in immersive WBL.



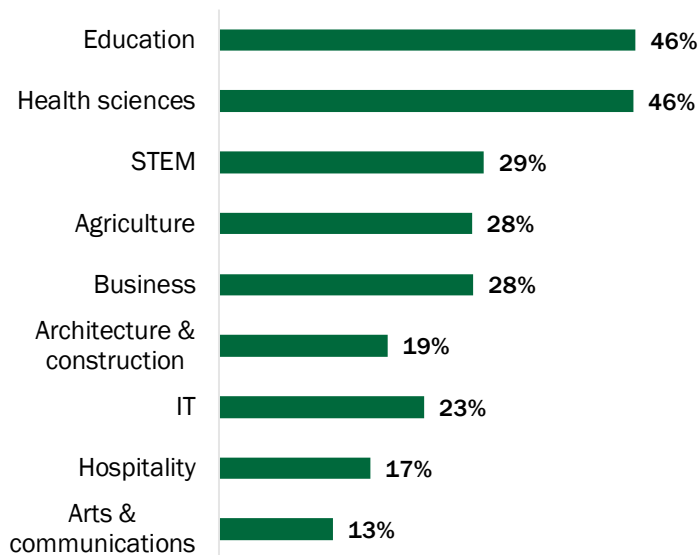
n=2,004

Source: Delaware Pathways Student Outcomes Study Survey

Note: Pathways with fewer than 75 survey respondents not shown.

In comprehensive high schools, education and health sciences pathway graduates had the highest immersive WBL participation rates (**Exhibit 24**).

Exhibit 24. Some 46% of 2022, 2023, and 2024 education and health science pathway graduates in comprehensive high schools participated in immersive WBL.



n=2,172

Source: Delaware Pathways Student Outcomes Study Survey

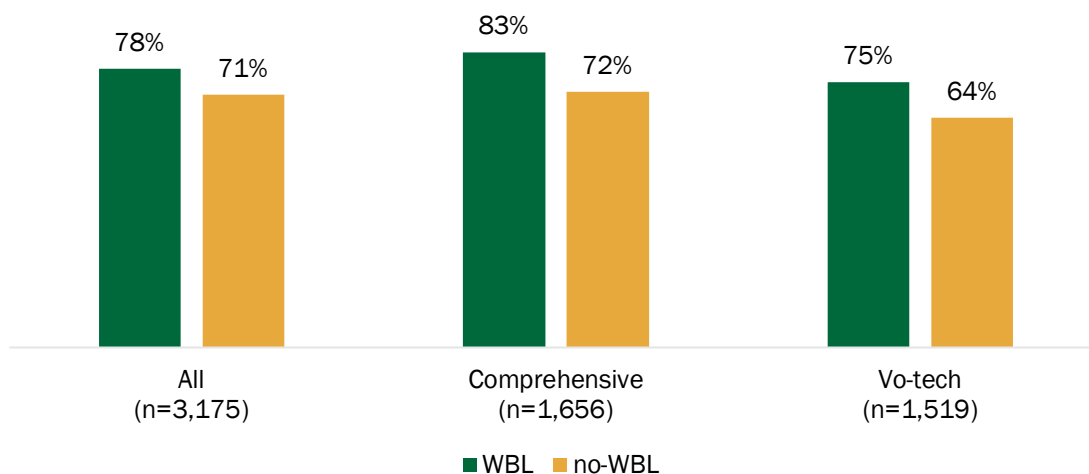
Note: Pathways with fewer than 75 survey respondents not shown.

No statistically significant differences in WBL participation rates were found by disability status or income, but females reported a higher rate of participation (52 percent) than males (48 percent) ($p < .05$) (data not shown). The magnitude of the difference is not large, and may be due to prevalence of female students in fields with relatively high rates of WBL participation, such as education and health care.

Work-Based Learning and Post-High School Outcomes

The study explored the association between participating in WBL and postsecondary enrollment about six months post-high school. At six months post-high school, pathway graduates who had participated in immersive WBL had a higher rate of postsecondary enrollment (78 percent) than those who did not (71 percent) ($p < .05$) (**Exhibit 25**). The same result was found among graduates of vo-tech and comprehensive high schools separately ($p < .05$).

Exhibit 25. Among 2022, 2023, and 2024 pathway graduates, immersive WBL participants had higher rates of postsecondary enrollment 6 months post high school overall (78 vs. 71 percent) ($p < .05$).

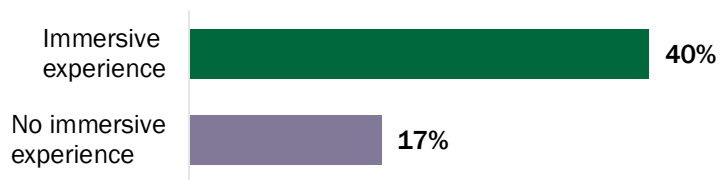


Source: Delaware Pathways Student Outcomes Study Survey

Among employed 2022 and 2023 pathway graduates who completed an immersive WBL experience in high school, 48 percent reported working in a job that was the same as or related to their high school pathway 18 months after graduation, compared with 17 percent of employed graduates who did not complete an immersive WBL experience ($p < .01$) (**Exhibit 26**).

Exhibit 26. Some 40 percent of employed 2023 pathway graduates who completed an immersive WBL experience had jobs related to their pathway 18 months post-high school,

compared to 17 percent of those with no immersive WBL experience ($p < .01$)



n=1,329

Source: Delaware Pathways Student Outcomes Study Survey

There was no significant difference by WBL participation in the proportion of graduates enrolled in a postsecondary program they identified as related to their high school pathway, which was 40 percent for those who had not completed an immersive experience and 50 percent for those who had (**Exhibit 27**).

Exhibit 27. Among 2022 and 2023 pathway graduates who were enrolled 18 months post-high school, from 40 to 50 percent were enrolled in postsecondary programs related to their high school pathway, regardless of participation in immersive WBL.



n=971

Source: Delaware Pathways Student Outcomes Study Survey

To better understand the relationship between WBL and postsecondary enrollment, we used a survey-weighted statistical model that compares students with and without WBL while accounting for differences in their career pathways and the types of high schools they attended. This approach helps to isolate the relationship between WBL participation and postsecondary enrollment by adjusting for other factors. After adjusting for career cluster and school type, participation in WBL across the three cohorts was associated with a 10-percentage-point higher probability of postsecondary enrollment ($p < .001$). Because the analysis is based on observational data and a non-experimental design, the regression results reflect associations rather than causal effects; for example, while participation in WBL may increase the likelihood of pathway graduates pursuing postsecondary education, it is also possible that students already inclined toward postsecondary education are more likely to participate in WBL.

Using a similar approach, we also examined whether WBL is associated with graduates' employment in pathway-related jobs, using a survey-weighted statistical model was used

that adjusts for both students' pathway cluster and the type of high school they attended. In practical terms, WBL was associated with a 13-percentage-point increase over non-participants in the likelihood of having a pathway-aligned job ($p < .001$). The results suggest that WBL plays a key role in connecting students' high school pathways to their early labor market outcomes. Insufficient sample size prevented a similar analysis of the relationship between WBL participation and enrollment in a pathway-aligned postsecondary education program.

These exploratory findings suggest that pathway field and WBL participations may have different roles in shaping early postsecondary and labor market outcomes. Specifically, graduates' secondary pathway field was associated with their postsecondary field of study, whereas WBL participation was not. This pattern may reflect the alignment of pathway programs with particular academic and career domains that include postsecondary training, and may therefore influence postsecondary major selection through coursework, advising, and identity formation within a field. In contrast, WBL participation exhibited greater association employment outcomes than pathway field alone. This result may indicate that hands-on, employer-connected experiences provide students with industry-specific skills, professional networks, and labor market signaling advantages that more directly translate into employment within a related field. Taken together, these findings suggest that pathway coursework may be more influential in guiding educational trajectories, while WBL experiences may be more consequential for early career alignment; however, more research is needed to test these ideas.

Analysis by Pathway Field

The final sections of this report focus on the experiences and outcomes of graduates from three pathway fields: health care, education, and architecture and construction, which were selected for two reasons. First, each field has been the subject of sustained statewide attention due to critical workforce needs. For example, in health care, four of the five fastest-growing occupations in the state are in this sector (DDOL 2025). Similarly, in education, the Delaware Department of Education has launched multiple policy and programmatic strategies to address workforce shortages by expanding and diversifying the teacher pipeline, including through high school-level programs (DDOE 2025). In the trades, such as architecture and construction, observers have noted persistent labor shortages driven in part by an aging workforce and limited training opportunities (MilfordLive 2025), while the Delaware Department of Labor anticipates consistent job growth in multiple construction-related fields (DDOL 2024). Second, the districts participating in this study offer well-developed programs in these areas, resulting in relatively large proportions of students from these pathways within the study sample and enabling more in-depth analysis.

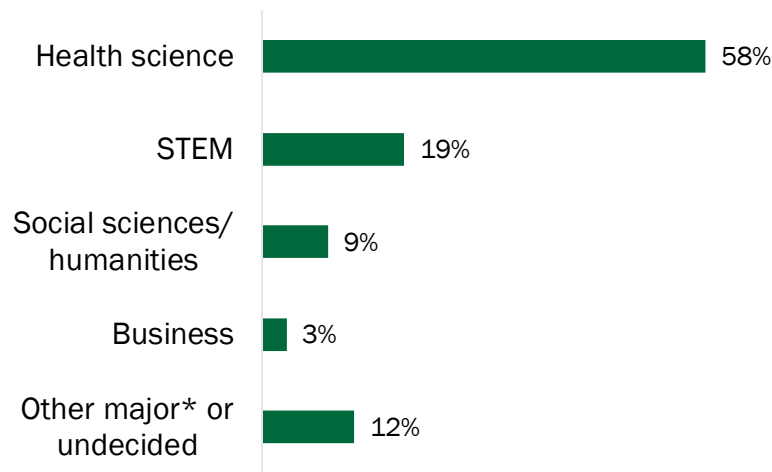
Health Science

Pathways in the health science career cluster have high enrollments, accounting for about 20 percent of pathway graduates statewide in Delaware each year. Health science pathway programs include patient care assistant, surgical technology, and dental assisting. To maximize sample size, the analysis of health science pathway graduates (and the analysis of graduates of construction/architecture and education pathways that follow) will focus on 6-month outcomes, which are available for all three of the cohorts included in the study.

Among 2022, 2023, 2024 pathway graduates who completed a health science pathway in high school, about 84 percent were enrolled in postsecondary education six months after high school graduation. The 18-month follow-up survey administered to 2022 and 2023 pathway graduates indicated that the high enrollment rate of pathways graduates continued, with 82 percent reporting postsecondary enrollment.

Among those enrolled, 58 percent of 2022, 2023, 2024 health science pathway graduates reported majors in a health science field six months post-high school (**Exhibit 28**). The proportion of 2022 and 2023 health science pathway graduates who reported health science majors 18 months post-high school was similar (55 percent, data not shown).

Exhibit 28. Six months after high school, more than half (58 percent) of the 2022, 2023, and 2024 health care pathway graduates who were enrolled in postsecondary education were health science majors.



n=658

*Fields of study accounting for 5% or fewer of enrolled graduates.

Source: Delaware Pathways Student Outcomes Study

Examples of the health science majors pursued by health science pathway graduates include nursing, dental hygiene, and medical diagnostics.

PATHWAY GRADUATE PROFILE

Kwame

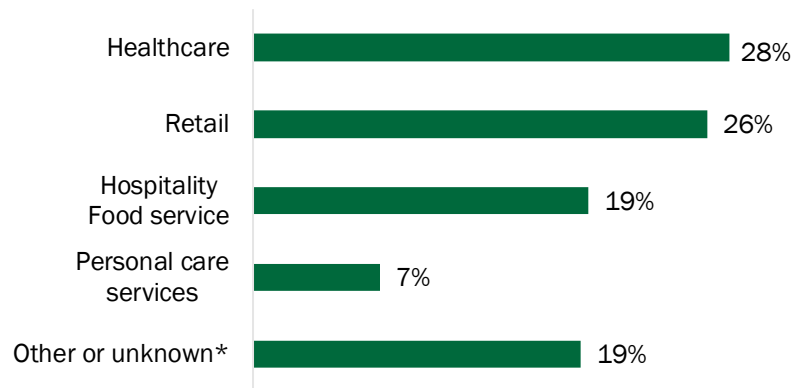
Allied Health

In high school, Kwame appreciated how the classes in his allied health pathway were tailored to students' interests. He particularly enjoyed the program's paramedic course, through which he earned a certification. Kwame felt that his pathway teachers cared about helping students find success in their postsecondary journeys, particularly in helping them learn to study effectively.

Participating in this pathway reaffirmed his interest in the medical field and helped solidify his postsecondary plans. After high school, Kwame entered a four-year public health degree program and volunteers at his college's health clinic. In the future he hopes to continue working in the field of medicine as a surgeon.

In terms of employment, of the 60 percent of the health science pathway graduates who were employed six months post high school graduation, 17 percent were employed full time and 83 percent part time (data not shown). Among those employed, retail and healthcare were the most common fields of employment, together accounting for over half of those employed (**Exhibit 29**).

Exhibit 29. The most common job fields among employed 2022, 2023, and 2024 health care pathway graduates were healthcare (28 percent) and retail (26 percent) 6-months post-high school.



n=573

*Other includes fields of employment accounting for fewer than 5% of employed graduates.

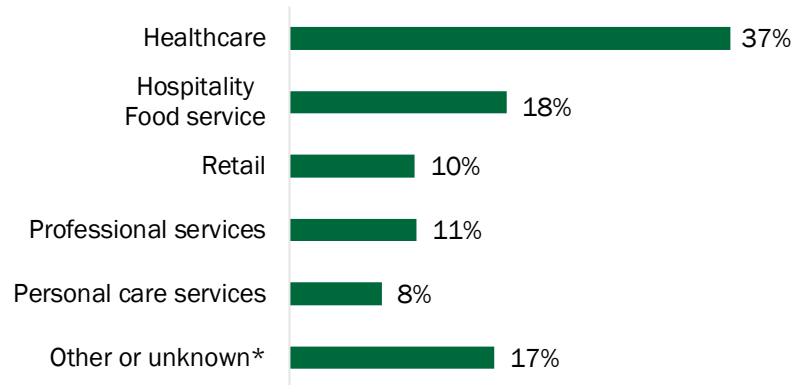
Source: Delaware Pathways Student Outcomes Study

Examples of health science pathway graduates' employment in healthcare occupations include a certified nursing assistant at Christiana Care, a dental assistant at Emerald Dental, and a patient service representative at United Medical.

At 18 months post-high school, 30 percent of employed 2022 and 2023 health sciences pathway graduates were working in healthcare, and 25 percent were employed in hospitality or food service occupations (data not shown). Taken together, the results suggest that over one-quarter of health science pathway graduates who reported employment (part time and full time) were working in healthcare occupations in the years following high school. The proportion working in these fields was four percentage points higher at 18 than six months, but the year-to-year differences may reflect small sample sizes, and the findings should therefore be interpreted with caution.

The analysis also examined fields of employment among health science pathway graduates who reported working full time. Among this group, over one third (37 percent) were working in health-related occupations six months post-high school (**Exhibit 30**).

Exhibit 30. Healthcare (37 percent) and hospitality/food service (18 percent) were the most common job fields among 2022, 2023, and 2024 health pathway graduates who were employed full time 6-months post-high school.



n=134

*Other includes fields of employment accounting for fewer than 5% of employed graduates.

Source: Delaware Pathways Student Outcomes Study

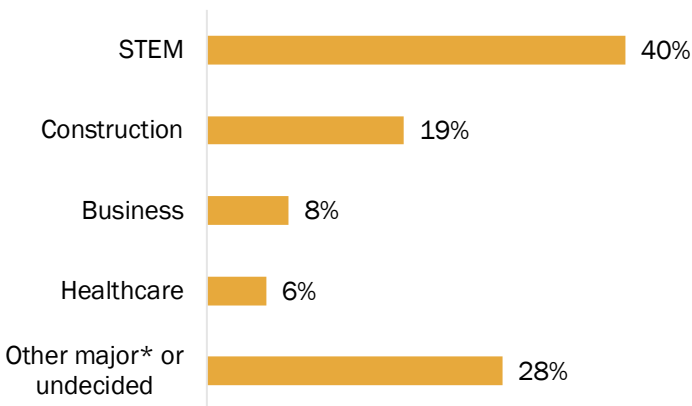
These results show a strong association between health science pathways and postsecondary engagement in health-related fields, with large majorities of graduates enrolling in college and over half selecting health science majors after high school. At the same time, meaningful shares of graduates enter health care employment soon after graduation, including full time roles, highlighting the broader relevance of health science pathways for supporting both college aligned progression and early entry into high-demand workforce sectors.

Architecture and Construction

Architecture and construction pathway programs include drafting and design, electrical trades, and carpentry. Among 2022, 2023, 2024 pathway graduates who completed an architecture and construction pathway in high school, about 66 percent were enrolled in postsecondary education six months and 69 percent at 18 months post high school graduate.

Among those enrolled, 37 percent of architecture and construction pathway graduates reported majors in STEM fields six months post-high school, and 16 percent in construction (Exhibit 31).

Exhibit 31. Six months after high school, 40 percent of the 2022, 2023, and 2024 architecture and construction pathway graduates who were enrolled in postsecondary education were in a STEM program or major.



n=201

*Fields of study accounting for fewer than 5% of enrolled graduates.

Source: Delaware Pathways Student Outcomes Study

In the 18-month follow-up survey, 14 percent of 2022 and 2023 architecture and construction pathway graduates who were enrolled in postsecondary education were majoring in STEM and 34 percent in construction-related fields. Results from both the 6-month and 18-month follow-ups indicate that STEM and construction are popular majors among these graduates, although year-to-year differences should be interpreted with caution due to small sample sizes.

The majority of those in STEM programs were majoring in engineering, such as architectural engineering technology and mechanical engineering. Apprenticeship programs were common among graduates in construction programs, including in electrical and plumbing.

PATHWAY GRADUATE PROFILE

Taniya

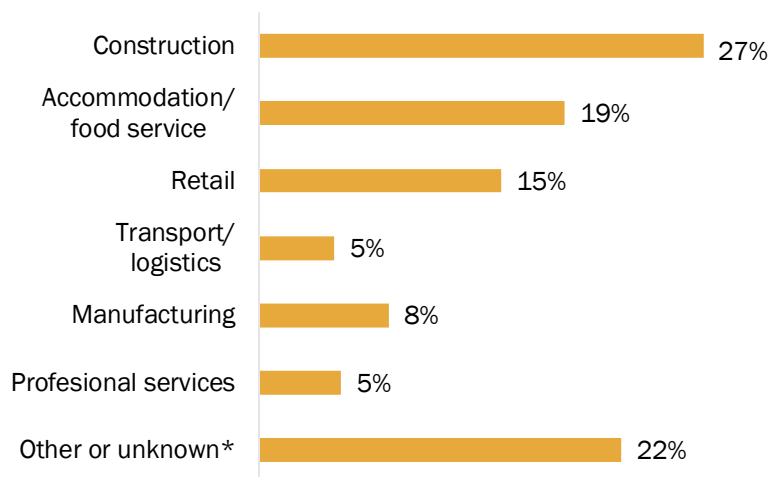
Electrical Trades

Despite being one of the only female students in her electrical trade's pathway, Taniya felt a strong sense of belonging with the other students and appreciated the variety of fields she was able to explore in her pathway. The switch to remote learning during the COVID-19 pandemic eroded Taniya's interest in her pathway, and she credits her teachers' support as instrumental in helping her to complete the program.

Taniya's teachers also encouraged her to interview for her current job as an apprentice with an electrical company where she assists other electricians. In the future she hopes to continue her education by earning a degree, eventually working towards having her own business as an electrician and continuing to work in the field.

In terms of employment, among the 66 percent of the architecture and construction pathway graduates who were employed six months post high school graduation, 47 percent were employed full time and 43 percent part time (data not shown). Among those employed, about one quarter (27 percent) were employed in construction (**Exhibit 32**).

Exhibit 32. The most common occupational areas of employment among employed 2022, 2023, and 2024 architecture and construction pathway graduates were construction (27 percent) and accommodation/food service (19 percent) 6-months post-high school.



n=257

*Other includes fields of employment accounting for fewer than 5% of employed graduates

Source: Delaware Pathways Student Outcomes Study

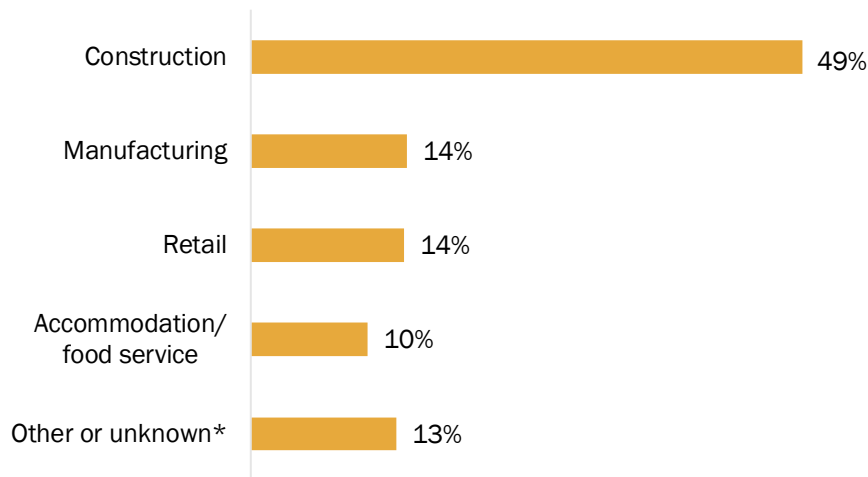
At 18 months post-high school, 18 percent of employed 2022 and 2023 architecture and construction pathway graduates were working in construction, and 25 percent were employed in hospitality or food service occupations (data not shown).

Examples of graduates' employment in construction include a welder at Summit Steel and an electrical apprentice at Radius Systems.

Taken together, the results suggest that about a fifth of architecture and construction pathway graduates who were employed (full time or part time) work in construction in the years following high school. As was the case for health science pathway graduates, year-to-year differences in employment fields may reflect small sample sizes, and the findings should therefore be interpreted with caution.

When the sample is limited to graduates working full time, about one half (49 percent) reported working in construction six months post-high school (**Exhibit 33**).

Exhibit 33. The most common occupational area of employment among 2022, 2023, and 2024 architecture and construction pathway graduates working full time was construction (49 percent) 6 months post-high school.



n=139

*Other includes fields of employment accounting for fewer than 5% of employed graduates

Source: Delaware Pathways Student Outcomes Study

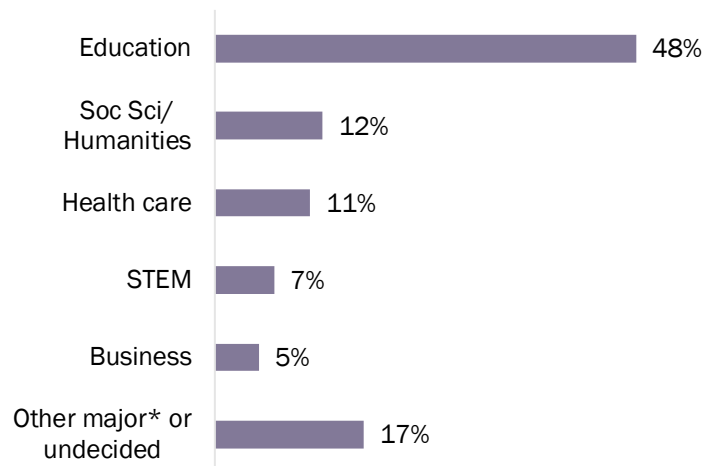
These findings suggest that architecture and construction pathways support multiple postsecondary and workforce routes, with sizeable shares of graduates enrolling in further education and concentrating in STEM or construction related fields after high school. At the same time, the relatively high proportion of full-time workers employed in construction indicates that these pathways can facilitate earlier and more direct entry into skilled trades, underscoring their role in strengthening connections between secondary education, technical training, and the labor market.

Education and Training

Education pathway programs include K-12 teacher academies and early childhood education. Among 2022, 2023, 2024 pathway graduates who completed an education pathway in high school, about 64 percent were enrolled in postsecondary education six months after high school graduation. The 18-month follow-up survey administered to 2022 and 2023 pathway graduates found an enrollment rate of 74 for those who completed an education pathway.

Among those enrolled, about half (48 percent) reported that their major or field of study related to that of their high school pathway (**Exhibit 34**).

Exhibit 34. Six months after high school, 48 percent of the 2022, 2023, and 2024 education pathway graduates who enrolled in postsecondary education were pursuing a degree in education.



n=136

*Fields of study accounting for fewer than 5% of enrolled graduates.

Source: Delaware Pathways Student Outcomes Study

In the 18-month follow-up survey, 46 percent of 2022 and 2023 education pathway graduates who were enrolled in postsecondary education were majoring in education. The results suggest that about half of education pathway graduates continued in same field at the postsecondary level, although the results should be interpreted with caution due to small sample sizes.

Examples of the fields of study or majors of education pathway graduates who were in a field that was the same as or related to their high school pathway include early childhood and elementary education.

PATHWAY GRADUATE PROFILE

James

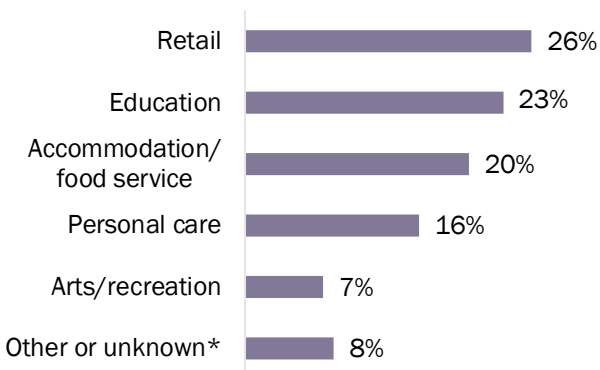
Teacher Academy

James believes that the hands-on experience in his teacher academy pathway solidified his interest in pursuing a teaching career, and particularly his senior-year internship, when he shadowed a teacher and learned about classroom management.

James is currently enrolled at Delaware Technical Community College, where he is set to complete an associate degree in elementary education and plans to continue his studies to obtain a bachelor's degree in the same field. He is also assisting the lead teacher in a preschool classroom and feels that his pathway program provided him with the skills and knowledge his role requires, such as pedagogical theory and understanding of child development and behavior.

In terms of employment, of the 66 percent of education pathway graduates who were employed six months post high school graduation, 29 percent were employed full time and 71 percent part time (data not shown). Among those employed, almost one quarter (26 percent) were employed in retail and 23 percent in education (**Exhibit 35**).

Exhibit 35. Six months post-high school, the most common occupational areas of employment among employed 2022, 2023, and 2024 education graduates were retail (26 percent) and education 23 percent).



n=137

*Other includes fields of employment accounting for fewer than 5% of employed graduates

Source: Delaware Pathways Student Outcomes Study

At 18 months post-high school, 26 percent of employed 2022 and 2023 education pathway graduates were working in education. The results suggest that about a quarter to a third of education pathway graduates who are employed (full time or part time) work in education in the years following high school. However, year-to-year differences may reflect small sample sizes, and the findings should therefore be interpreted with caution.

Examples of graduates' employment in education include paraprofessional employed by Capital School District, an assistant teacher at a Montessori school, and monitor at an afterschool center.

Among the 40 education pathway graduates from the 2022, 2023, and 2024 cohorts who were working full time six months after high school, of which about one half reported being employed in an education-related occupation. We did not prepare a figure for these results given the small sample size.

These findings indicate that education pathways primarily serve as a bridge into postsecondary education, with enrollment increasing by 18 months after high school and about half of enrolled graduates continuing in education related majors. While some graduates do enter education related jobs, the link between pathways and early employment is less pronounced than the connection to postsecondary progression, suggesting these pathways may function more as a longer-term talent development pipeline than as an immediate route into the workforce.

Concluding Insights

The Delaware Pathways Outcomes Study provides a comprehensive view of how high school career pathways shape students' early transitions to postsecondary education and the workforce. Across three cohorts, the findings highlight a central theme: pathways are most strongly associated with postsecondary enrollment, while their influence on immediate employment is more uneven, given that most graduates work is part time and often combined with school. Roughly three quarters of graduates enroll in further education within six months of leaving high school, with especially strong outcomes in health science pathways, indicating a strong association between pathways and college-going.

Work-based learning emerges as a critical complementary component. About half of graduates participate in immersive experiences, which are associated with higher postsecondary enrollment and pathway-aligned employment. These findings suggest that while coursework helps guide educational trajectories, hands-on experiences with employers play a more direct role in connecting students to the labor market.

At the same time, early employment patterns reveal important challenges. Many graduates initially work in part time, service-sector roles that are not aligned with their pathways. However, alignment increases among full-time workers and is associated with significantly higher wages, underscoring the long-term economic value of strengthening these connections. The gap between educational alignment and employment alignment points to the need for strong employer partnerships and clearer transitions into careers.

Key lessons include the importance of aligning pathways with labor market demand, expanding equitable access to high-quality work-based learning, and improving career advising and employer engagement. Finally, the study emphasizes that the full effects of pathway programs on student outcomes, and particularly those related to employment, may take time to emerge, reinforcing the need for continued tracking and system-level coordination to fully realize the benefits of career pathways.

Appendix A. About the Data

The data included in this report were collected over four years in partnership with Delaware high schools and districts. Because the follow-up study could not include all pathways, the districts were asked to focus on a subset of pathways in fields aligned to selected high-demand occupations in Delaware, such as health sciences and education, but schools also included other fields of interest. The participating districts collected baseline survey data from graduating seniors in spring 2022, 2023, and 2024. Beginning about six months after graduation, the study team conducted a follow-up survey from January to April of the following year. Eighteen-month follow-up data was collected from 2022 and 2023 graduates, and 24-month follow-up data from 2022 graduates. All of the follow-up surveys followed the approximately the same schedule as the 6-month follow-up survey, with occasional extensions of the data collection window to boost response rates.

Due to the lingering effects of COVID-19 on schools and delays in data-collection approvals, the sample for 2022 pathway graduates was the smallest, with 547 baseline respondents (Figure A1).

Figure A1. The study included three cohorts and 5,334 baseline, 3,584 6-month follow-up, 1,898 18-month follow-up, and 370 24-month follow-up survey respondents.

Cohort	# who completed the baseline survey	# who completed the 6-month follow-up survey	# who completed 18-month follow-up survey	# who completed 24-month follow-up survey
Total across all years	5,335	3,584 (67% of baseline)	1,898 (60% of baseline)	370 (68% of baseline)
2022 graduates	547	378	395	370
2023 graduates	2,617	1,691	1,506	Not applicable
2024 graduates	2,171	1,515	Not applicable	Not applicable

Response rates (as a percentage of baseline survey respondents) for the 6-month follow-up survey, which included all three cohorts, averaged 67 percent; 60 percent for the 18th month survey, which included two cohorts; and 68 percent for the 24th month survey, which included one cohort.

In 2022, five districts (Appoquinimink, Colonial, Milford, NCCVT, and Red Clay) and nine high schools participated in the study. In the final year of data collection (2024 graduates), seven

districts (Appoquinimink, Capital, Colonial, Indian River, Milford, NCCVT, and Red Clay) and 15 high schools participated.

Summary of 2023 Cohort Data Collection

The largest sample among the three cohorts was for 2023 pathway graduates. Because of the cohort's larger size, several analyses focus on the 18-month follow-up survey of these graduates. Ten districts (two countywide vo-tech districts and eight comprehensive districts) participated in the baseline survey of 2023 pathway graduates, and data collection included 20 high schools and 2,618 graduating pathway students (Figure A2).

Figure A2. In spring 2023, 2,618 graduating pathway seniors completed the baseline survey, representing about 58 percent of graduating pathway seniors in the participating districts.

District	# of seniors in pathway programs	# who completed the baseline survey (% of pathway seniors)	# of 6-month follow-up survey respondents (% of baseline respondents)
Total	4,487	2,618 (58%)	1,791 (68%)
Comprehensive school district total	3,203	1,461 (46%)	998 (68%)
Appoquinimink	715	329 (46%)	235 (71%)
Brandywine	421	210 (50%)	167 (80%)
Cape Henlopen	239	127 (53%)	67 (53%)
Capital	284	233 (82%)	153 (66%)
Colonial	245	14 (6%)	14 (100%)
Indian River	547	186 (34%)	128 (69%)
Milford	245	233 (95%)	149 (64%)
Red Clay	507	129 (26%)	85 (65%)
Vo-tech district total	1,284	1,157 (90%)	793 (69%)
New Castle County Vo-Tech	1,023	1,002 (98%)	674 (67%)
POLYTECH	261	155 (59%)	119 (77%)

The six-month follow-up response rate was 68 percent of the baseline sample, representing about 40 percent of all 2023 pathway graduates from participating schools and about 62 percent of vo-tech pathway graduates.

In terms of the 2023 graduates' pathway fields, health science pathway graduates accounted for the largest percentage of baseline survey respondents (25 percent) (Figure A3). This pathway also accounted for the largest proportion of pathway graduates among the study schools (20 percent) and statewide (18 percent).

Figure A3. Health science graduates accounted for 25 percent of the respondents to the baseline survey of 2023 pathway graduates. This career cluster accounted for 20 percent of 2023 pathway graduates in the study schools, and 18 percent statewide.

Career cluster	# of baseline survey respondents	# of pathway grads, study schools	# of pathway grads, statewide
Health Science	661 (25%)	897 (20%)	1,167 (18%)
Architecture and Construction	167 (6%)	402 (9%)	467 (7%)
Arts, Audio/Video Technology, and Communication	260 (10%)	412 (9%)	578 (9%)
Education and Training	202 (8%)	246 (5%)	381 (6%)
Science, Technology, Engineering, and Math	185 (7%)	418 (9%)	586 (9%)
Hospitality and Tourism	200 (8%)	460 (10%)	622 (10%)
Information Technology	151 (6%)	219 (5%)	344 (5%)
Agriculture, Food and Natural Resources	167 (6%)	626 (14%)	985 (15%)
Business, Finance, and Marketing	157 (6%)	332 (7%)	683 (11%)
Transportation, Distribution, and Logistics	112 (4%)	161 (4%)	195 (3%)
Law and Public Safety	61 (2%)	128 (3%)	153 (2%)
Other (Advanced Placement, Jobs for Delaware Graduates, or ROTC)	62 (2%)	n/a	n/a
Human Services	55 (2%)	147 (3%)	195 (3%)
Manufacturing	28 (1%)	31 (1%)	92 (1%)
Total	2,617 (100%)	4,565 (100%)	6,456 (100%)

Note: Respondents are unduplicated; students who completed more than one pathway were asked to report on the pathway that most closely aligned with their career interests.

Data source: Delaware Pathways Student Follow-Up Survey and the Delaware Department of Education

The proportion of baseline survey respondents in the baseline sample in each pathway is within few percentage points of that found in the study schools (and statewide), with the exceptions of health science (overrepresented in the baseline sample) and agriculture, food, and natural resources (underrepresented in the baseline sample). According, the results of this study may be less representative of those graduates.

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