



# ACT 158 Pathways: Class of 2023 Report

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## Introduction

ACT 158 was signed into law on October 24, 2018, by Governor Tom Wolf. It provides alternative pathways to graduation through which students can show post-secondary preparedness without meeting Keystone proficiency requirements. The graduating class of 2023 was the first group to have access to these new pathways. What follows is a study of the data collected from this cohort. The purpose of this analysis is to summarize interesting or unexpected findings that will lead to a better understanding of both the effect these new options had on seniors, and how these options might alter college and career preparation in the future.

## Overview of Act 158

The passage of Act 158 represented the first time Pennsylvania set standards for students to meet graduation requirements. Act 158 provides students with five different pathways to reach graduation. These pathways provide differentiated options for students, specifically students who are unable to pass Pennsylvania's high school assessment, the Keystone exam. Pathways are ordered based on preference for student completion. Each pathway requires students to meet all local graduation requirements, especially subjects where students do not meet Keystone proficiency.

- **Pathway 1: Keystone Proficiency:** This represents the clearest pathway to graduation, which is met by students earning Proficient or Advanced on the Keystone Biology, Algebra I, and Literature exams.
- **Pathway 2: Keystone Composite:** Students who do not score Proficient or Advanced on each exam but are close can take advantage of the composite score pathway if their three exams total 4452 points or higher, with no exam scored as Below Basic.
- **Pathway 3: Career and Technical Education:** Students attending a career and technical education program are able to meet the requirements through a combination of local requirements and Pre-NOCTI or NOCTI proficiency. This career readiness assessment demonstrates a student's proficiency in their career of study.



- **Pathway 4: Alternative Assessment:** Students who do not meet any of the previous pathways are able to meet graduation requirements by earning proficiency on several different alternative assessments including SAT, PSAT/NMSQT, ACT, ASVAB. Students can additionally meet the requirement by gaining entrance into a four-year nonprofit college, or meeting the college readiness benchmark for AP or IB classes aligned with class aligned with Keystones they did not pass.
- **Pathway 5: Evidence-Based Pathway:** This is the most complicated pathway, which requires students to provide multiple pieces of evidence of proficiency. This includes earning industry credentials, completing service learning, meeting college readiness benchmarks on AP or IB exams, and more as outlined in Appendix 1.

Special waivers are offered for different student populations. The district can provide a general waiver to students with unique circumstances such as illness, death of an immediate family member, a significant number of school transfers, or others. If more than 5% of the graduating class receives a general waiver, the district will be subject to an audit from the Pennsylvania Department of Education. The most common waiver is for students with disabilities. Any student with a disability can receive a special education waiver if they complete a special education program in accordance with their individualized education plan (IEP).

## Research Design

This study aims to answer a number of research questions, outlined below:

- What disparities in pathway usage exist between different high school buildings (McCaskey Campus, Phoenix, Buehrle, Cyber, etc.)?
- What pathways are students taking advantage of and what disparities exist across demographic groups?
- Is there any correlation between the middle school a student attended and the likelihood of a student taking a specific pathway?
- How do students' reported post-graduate plans relate to their pathway choice? Are there inconsistencies between the pathway chosen and the post graduate plan?
- How does academic performance of students relate to pathway usage?

For each of these questions, descriptive statistics are first collected. Then Chi-squared statistical testing is used to determine if a relationship is statistically significant or if it occurred by chance. Chi-squared testing determines whether any deviation from the null hypothesis is significant enough to indicate a real correlation. The null hypothesis for each test is that there is no relationship between the variable and pathway (for example race and pathway, or feeder middle school and pathway). If the standard residuals found during the Chi-squared test for a certain relationship are  $\geq |2|$ , there is *slight* statistical significance.



If the standard residuals were  $\geq |4|$ , there is *substantial* statistical significance. The results of this study indicate that there are patterns in chosen pathways by different student groups that do not match the known demographic composition of the SDoL student body. That is, we find correlations between the pathways chosen and the student variables we tested.

## Variables

The independent variables that we examined for a relationship with pathway choice included high school building, student demographics, feeder middle school, post-graduate plan, and academic performance. Feeder schools were recorded based on the student's middle school as of 8<sup>th</sup> grade. The data also includes those coming to high school from out of the district and students coming from multiple middle schools within the district during their 8<sup>th</sup> grade year. Post-graduate plans were collected from students by school counselors as indicated in the school information system. These post-graduate plans are identified by end of the year student surveys and through advising meetings with counselors, college advisors, and college and career project specialists. Their options were college, workforce, military, short-term training and undecided. Academic performance is defined by a student's unweighted GPA, the percentage of days they were present at school, and whether or not they were chronically absent. Certain demographic subgroups are analyzed separately for correlation with each pathway. These include students identified as Families in Transition (individuals with housing insecurity), English language learners, economically disadvantaged students, students receiving special education services with an IEP, and students who are chronically absent (absent for 10% or more of days enrolled).

## Sample Description

School District of Lancaster's cohort of Class of 2023 graduates serves as the sample population for this analysis. All data elements come from SDoL's school information system and the district's Act 158 tracking system. This information is currently tracked via a collaborative Google sheet, but will be tracked directly within the school information system starting in the 2023-2024 school year.

The Class of 2023 consists of 660 graduates attending several buildings within the district. The majority of students, approximately 65%, completed their education at McCaskey Campus. The next largest group attended Phoenix (20.1%) (Figure 2). Gender is nearly evenly split between female (329) and male (331) students. Students are primarily Hispanic (55.8%), followed by Black or African American (19.5%), White (15.6%), Multi-Racial/Two or More (5.3%), and Asian (3.8%) (Figure 1). 83.2% of graduates are economically disadvantaged, 19.5% are English language learners, 21% have an IEP, and 4.6% are dealing with housing insecurity. 39% of graduates are chronically absent, with an average attendance rate



of 88.8%. The average unweighted GPA for the sample is 2.3. As of eighth grade, 22.6% of students came to high school from out of the district with the next largest cohort from Wheatland Middle School (19.7%). 16.5% came from Jackson, 15.2% came from Reynolds, and 12.3% came from Lincoln.

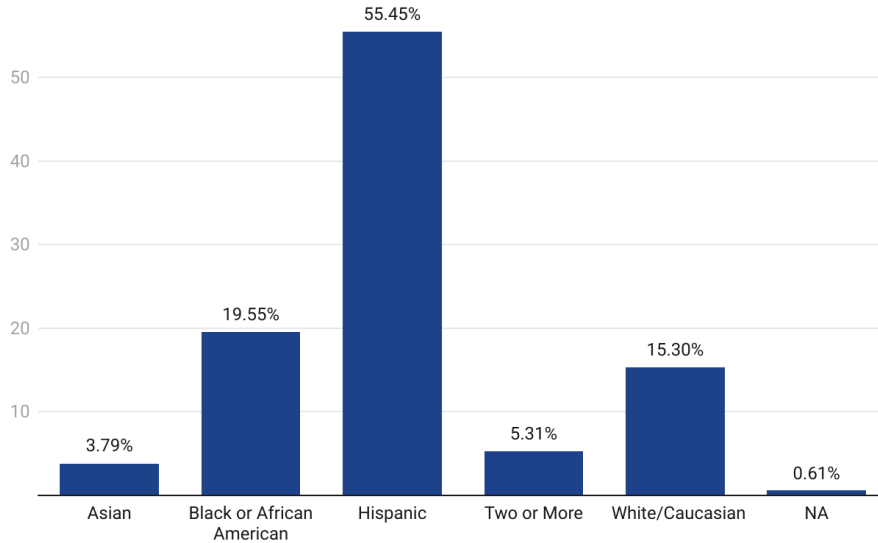


Figure 1: Breakdown of the class of 2023 by race

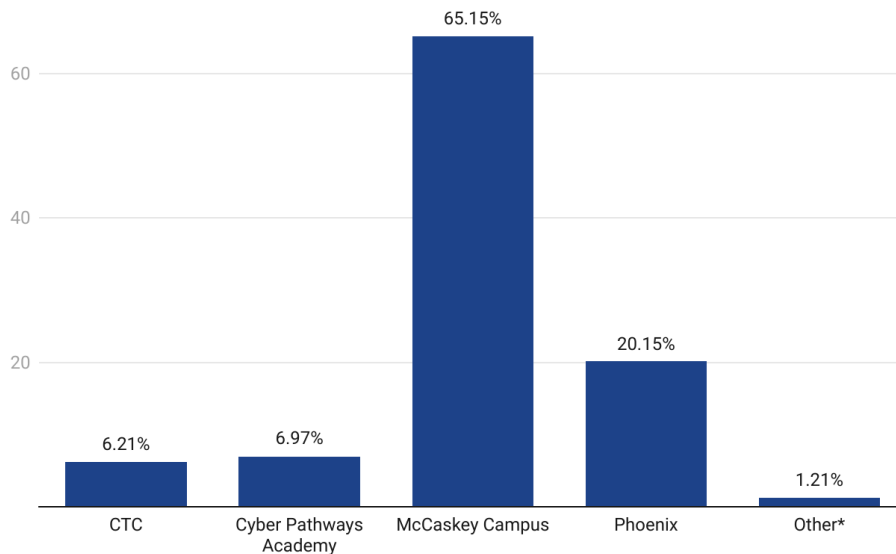


Figure 2: Breakdown of the class of 2023 by high school building

\*Note: 'Other' includes Buehrle, Dash, IU13-Central Education Center, Muncy Correctional, Out of District, Prison



## Results

### What disparities exist between high school buildings?

Analysis finds that there is a *substantially* smaller group of students from McCaskey taking advantage of the Evidence-Based Pathway (standard residual of -11.7) and a *substantially* larger group of students from Phoenix Academy that took the Evidence-Based Pathway (standard residual of 15.3) than would be expected based on the number of graduates from each building. However, this pattern is expected because the Evidence-Based Pathway aims to aid students who are unable to meet the keystone requirements, which matches the needs of many students attending Phoenix Academy. In the same vein, there were *substantially* more students at McCaskey (standard residual of 7.2) and *substantially* fewer students from Phoenix Academy (standard residual of -6.6) who took the Keystone Proficiency Pathway than predicted by the null hypothesis. There were *substantially* more students from CTC who took the Career and Technical Education Pathway than would be statistically likely (standard residual of 9). However, this strong correlation is to be expected as the Career and Technical Education Pathway is specifically designed for students attending CTC programs.

■ Substantially larger group ■ Substantially smaller group

High School Building	Pathway 1: Keystone Proficiency	Pathway 2: Keystone Composite	Pathway 3: Career and Technical Education	Pathway 4: Alternative Assessment	Pathway 5: Evidence-Based
Cyber Pathways Academy	2.65%	9.76%	0.00%	10.00%	8.30%
McCaskey Campus	92.04%	80.49%	70.59%	84.00%	35.27%
Phoenix	0.00%	0.00%	0.00%	0.00%	55.19%
CTC	2.65%	2.44%	25.00%	3.00%	0.00%
Buehrle	0.00%	0.00%	0.00%	0.00%	1.24%
NA	2.65%	7.32%	4.41%	3.00%	0.00%

Figure 3: Breakdown of pathway by high school building



## What disparities exist across demographic groups?

### Race

A few demographic groups show results that deviate from the null hypothesis. In the first anomalous example, White students are *substantially* overrepresented among Keystone Proficiency Pathway utilizers (standard residual of 8) and *substantially* underrepresented among the Evidence-Based Pathway utilizers (standard residual of  $-6.6$ ). Another observation is that there are *substantially* fewer Black or African American students and *slightly* fewer Hispanic students who took the Keystone Proficiency Pathway than would be expected statistically (standard residuals of  $-4$  and  $-3.4$  respectively). Hispanic students are also *slightly* underrepresented among Alternative Assessment Pathway users (standard residual of  $-2.4$ ) and *slightly* overrepresented among Evidence-Based Pathway users (standard residual of  $3.6$ ). Black or African American students are also *slightly* overrepresented among Evidence-Based Pathway users (standard residual of  $2.6$ ).

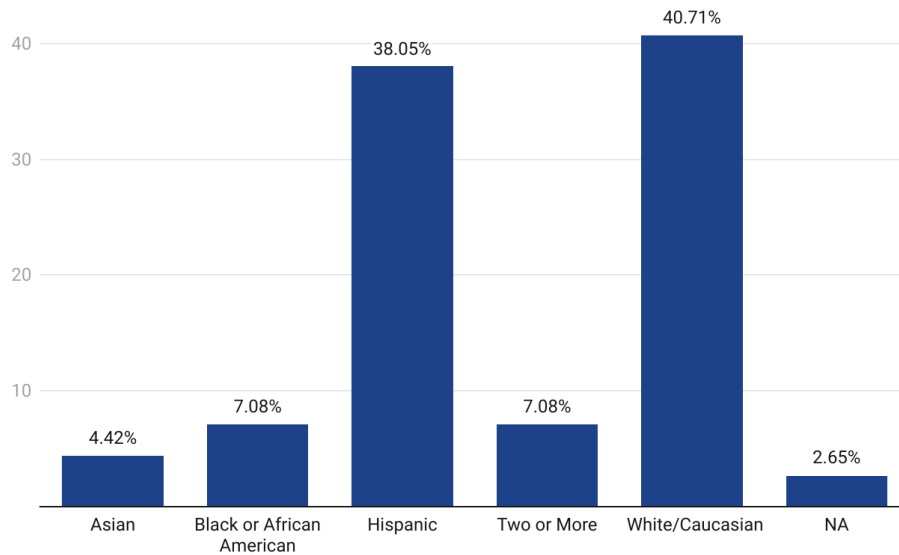


Figure 4: Breakdown of Pathway 1: Keystone Proficiency by student race

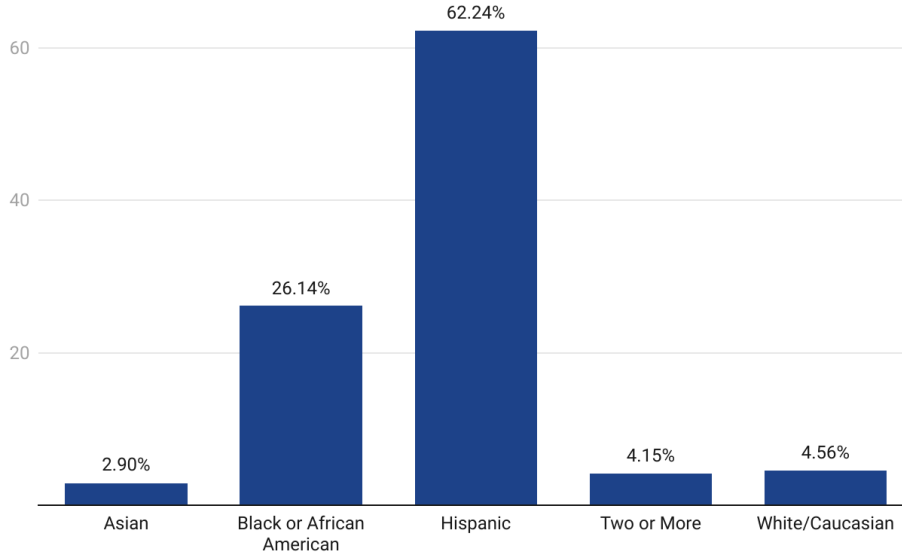


Figure 5: Breakdown of Pathway 5: Evidence-Based by student race

■ Substantially larger group 
 ■ Slightly larger group 
 ■ Substantially smaller group 
 ■ Slightly smaller group

	Pathway 1: Keystone Proficiency	Pathway 2: Keystone Composite	Pathway 3: Career and Technical Education	Pathway 4: Alternative Assessment	Pathway 5: Evidence- Based
Asian Percent	4.42 %	7.32 %	5.88 %	4.00 %	2.90 %
Black or African American Percent	7.08 %	12.20 %	23.53 %	23.00 %	26.14 %
Hispanic Percent	38.05 %	56.10 %	55.88 %	40.00 %	62.24 %
Two or More Percent	7.08 %	2.44 %	1.47 %	6.00 %	4.15 %
White/Caucasian Percent	40.71 %	14.63 %	8.82 %	21.00 %	4.56 %

Figure 6: Breakdown of each pathway by student race



## Gender

A similar comparison was done comparing choices of pathway with gender. After using a chi-squared test, no statistical significance was detected. We conclude that there is no evidence of a statistically significant relationship between pathway choice and gender.

Gender	Pathway 1: Keystone Proficiency	Pathway 2: Keystone Composite	Pathway 3: Career and Technical Education	Pathway 4: Alternative Assessment	Pathway 5: Evidence-Based
Female	51.22%	51.22%	61.76%	47.00%	52.30%
Male	41.46%	41.46%	33.82%	50.00%	47.70%
NA	7.32%	7.32%	4.41%	3.00%	0.00%

Figure 7: Breakdown of pathway by student gender

## Pathway distribution by demographic subgroup

Note: For this section, students who used special education waivers and students with incomplete data sets were removed from the data set (105 students used special education waivers). Only students who chose one of the five pathways were included in this analysis (except for the IEP section).

- The majority of **refugee** students chose the Evidence-Based Pathway (63.6%), followed by 27.3% choosing the Alternative Assessment Pathway and 9.1% choosing the Career and Technical Education Pathway.



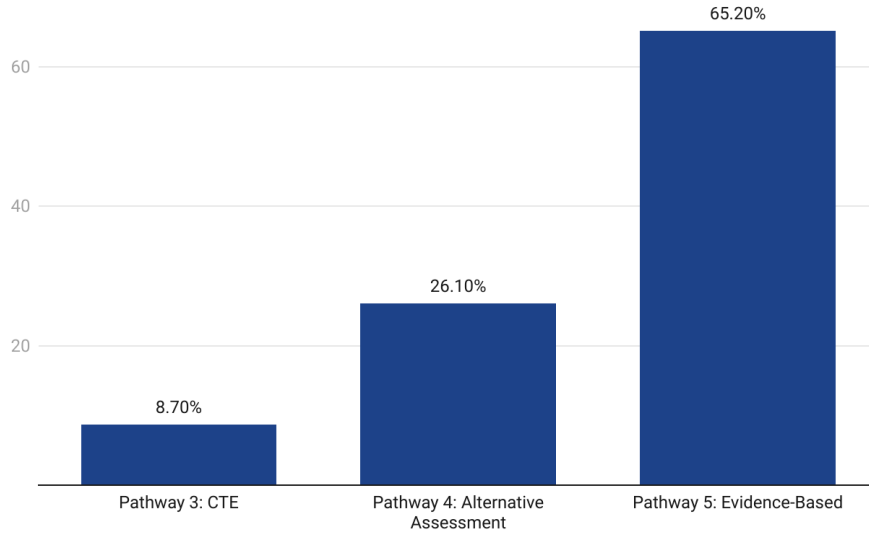


Figure 8: Percentages of pathways taken by refugee students

- Most **FIT** students chose the Evidence-Based Pathway (57.1%) followed by the Career and Technical Education Pathway (28.6%). Only 9.5% chose Alternative Assessment Pathway and 4.8% chose Keystone Proficiency.

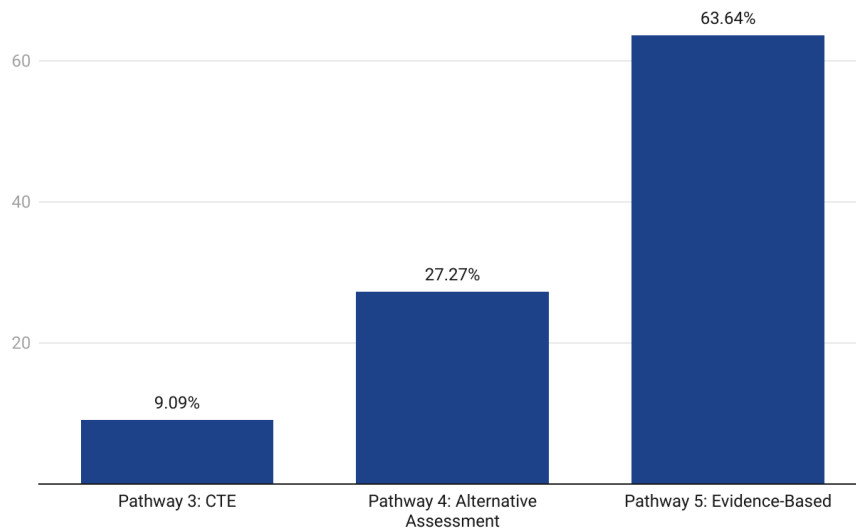


Figure 9: Percentages of pathways taken by FIT students



- The majority of **English language learners** chose the Evidence-Based Pathway (65.7%). 18.1% chose the Career and Technical Education Pathway and 11.4% chose the Alternative Assessment Pathway. Only 2.9% chose the Keystone Proficiency Pathway and 1.9% chose the Keystone Composite Pathway.

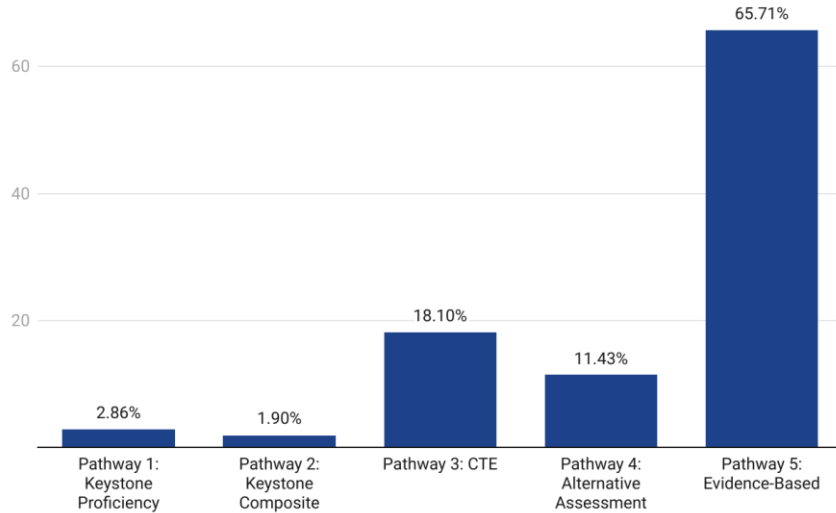


Figure 10: Percentages of pathways taken by English language learners

- Most **chronically absent** students chose the Evidence-Based Pathway (69.6%). 12.9% chose the Alternative Assessment Pathway and 7.8% chose the Keystone Proficiency Pathway. Only 5.9% chose Career and Technical Education and 3.7% chose the Keystone Composite Pathway.

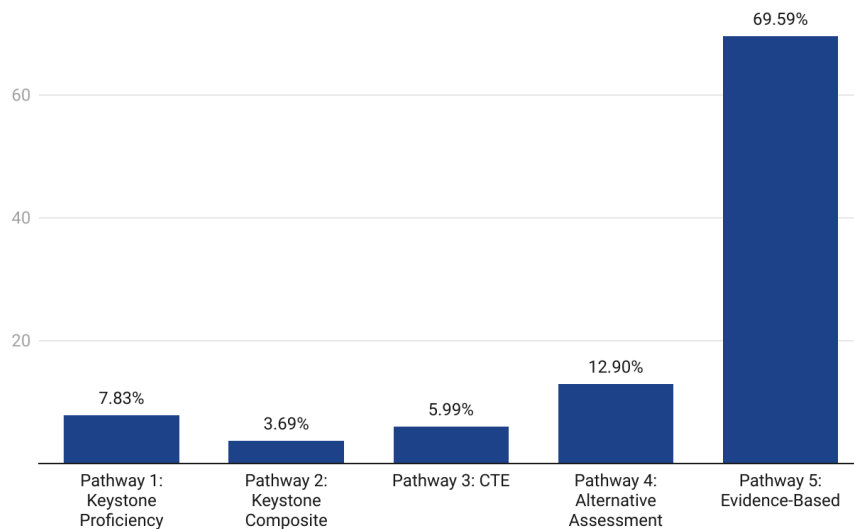


Figure 11: Percentages of pathways taken by chronically absent students

- 47% of **economically disadvantaged** students chose the Evidence-Based Pathway while 18% chose the Alternative Assessment Pathway. 14.9% chose Keystone Proficiency and 13.5% chose Career and Technical Education. Only 6.7% chose the Keystone Composite Pathway.

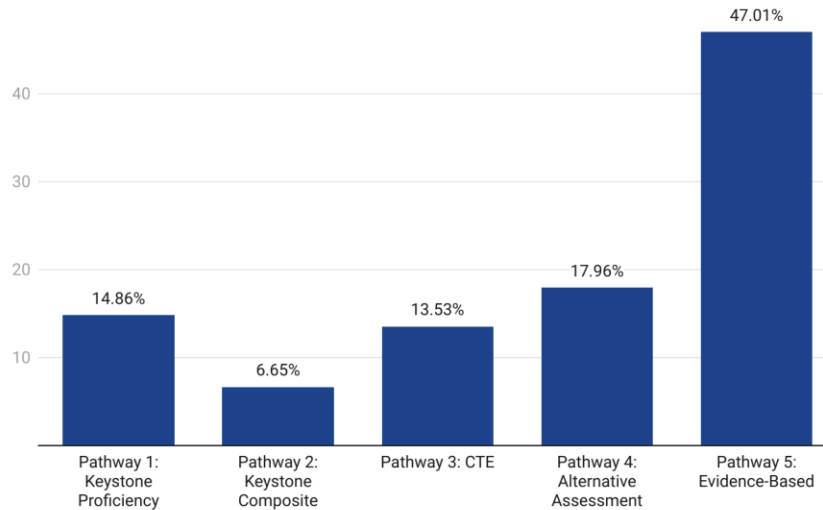


Figure 12: Percentages of pathways taken by economically disadvantaged students

- For the analysis of **students with an IEP**, the special education waiver was included as one of the pathway options. 69.34% of students with an IEP used a special education waiver and the Evidence-Based pathway was the next most common option at 18.98%.

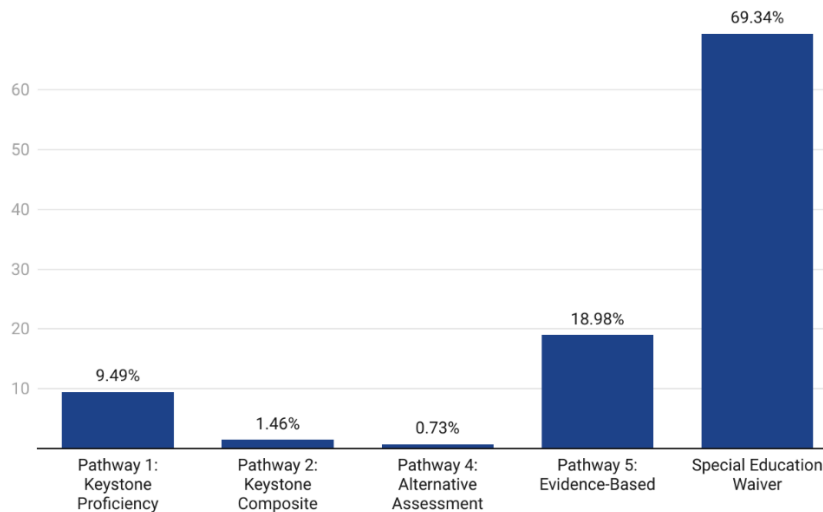


Figure 13: Percentage of students with an IEP who took each pathway or used a waiver



## Is there a relationship between prior middle school and a student’s pathway choice?

There was no *substantial* statistical relationship found between prior middle school and pathway choice. However, there were *slightly* more students from Martin who took the Keystone Proficiency Pathway than predicted by the null hypothesis (standard residual of 2.1) and *slightly* more students from both out of the district and coming from multiple middle schools who took the Evidence-Based Pathway than we would expect (standard residuals of 2 and 3.8 respectively). There were *slightly* fewer students coming from out of the district taking the Career and Technical Education Pathway than expected (standard residual of -3).

Legend: ■ Slightly larger group ■ Slightly smaller group

School	Pathway 1: Keystone Proficiency	Pathway 2: Keystone Composite	Pathway 3: Career and Technical Education	Pathway 4: Alternative Assessment	Pathway 5: Evidence-Based
Jackson	10.62%	21.95%	22.06%	12.12%	15.90%
Lincoln	16.81%	7.32%	17.65%	12.12%	10.88%
Martin	12.39%	2.44%	7.35%	5.05%	7.53%
Multiple	0.88%	0.00%	1.47%	2.02%	7.95%
Out of District	20.35%	14.63%	8.82%	29.29%	28.45%
Reynolds	19.47%	19.51%	20.59%	10.10%	12.97%
Wheatland	16.81%	26.83%	16.18%	24.24%	16.32%
NA	2.65%	7.32%	5.88%	5.05%	0.00%

Figure 14: Breakdown of pathway by prior middle school

## How do post-graduation plans relate to a student’s pathway choice?

There are quite a few *substantial* correlations between post-graduation plans and Act 158 pathways. This is to be expected. There are *substantially* more students planning on attending college who took advantage of the Keystone Proficiency Pathway (standard residual of 6.8) and *substantially* fewer students planning on joining the workforce who used the Keystone Proficiency Pathway (standard residual of -5.2). In contrast, there are *substantially* fewer students who plan on attending college that took the Evidence-Based Pathway (standard residual of -9.7) and *substantially* more students who planned on joining the workforce who took the Evidence-Based Pathway (standard residual of 10.9). Interestingly, there are *substantially* fewer students who planned on joining the workforce that took the Alternative Assessment Pathway (standard residual of -4.3).



Beyond these *substantial* correlations, there are a few *slight* correlations found between post-graduations plan and pathway selection. These relationships represent only minor deviations from the null hypothesis based on the general breakdown of post-graduate plan and pathway for the class of 2023. First, there are *slightly* more students planning on attending college who took the Career and Technical Education Pathway and the Alternative Assessment Pathway (standard residual of 2.1). Second, there are *slightly* fewer students planning on joining the workforce who took the Keystone Composite Pathway and the Career and Technical Education Pathway than would be statistically expected (standard residuals of  $-3.1$  and  $-2.8$  respectively). Additionally, there are *slightly* fewer students who were undecided who took the Keystone Proficiency Pathway (standard residual of  $-2$ ) and there are *slightly* more students who planned on short term training who took the Keystone Composite Pathway (standard residual of 2.2). Finally, there are *slightly* more students planning on joining the military who took the Career and Technical Education Pathway than we would predict (standard residual of 2.4).

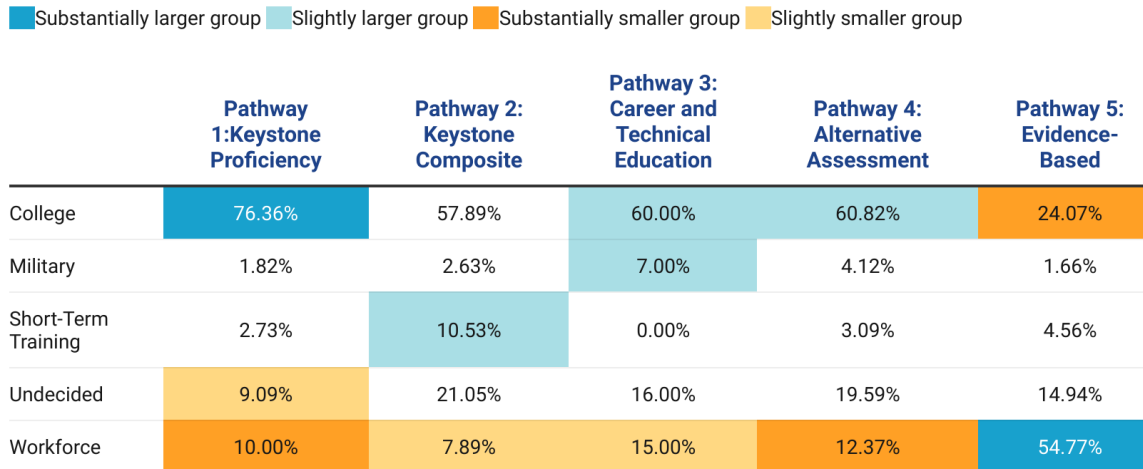


Figure 15: Breakdown of pathway by post-graduate plan



■ Substantial relationship 
 ■ Slight relationship

	Pathway 1: Keystone Proficiency	Pathway: Keystone Composite	Pathway 3: Career and Technical Education	Pathway 4: Alternative Assessment	Pathway 5: Evidence- Based
College	6.76	1.32	2.14	2.88	-9.73
Military	-0.76	-0.10	2.45	0.79	-1.53
Short-Term Training	-0.66	2.24	-1.71	-0.41	0.81
Undecided	-2.01	1.03	0.40	1.31	-0.18
Workforce	-5.22	-3.14	-2.82	-4.27	10.92

Figure 16: Standard residuals for post-graduate relationships

### Pathway 4: Alternative Assessment – Does Assessment Choice Match Post-Graduation Plan?

For the Alternative Assessment Pathway, there are multiple alternative assessments that students can use to replace keystone proficiency. These options are to attain an established score on alternative tests such as the ASVAB, the SAT, the PSAT, or WorkKeys, or to gain admittance to a 4-year college. The majority of students who chose the Alternative Assessment Pathway used their ASVAB score (43%) or admittance to a 4-year college (35%) to meet the requirements of the pathway. However, the majority of students who chose the Alternative Assessment Pathway planned to attend college after graduating (60.8%) and only 4.1% planned on joining the military. While the ASVAB assessment appears to provide a clear path to meeting graduation requirements for these students, it may not be best aligned with these students’ post-graduation plans.

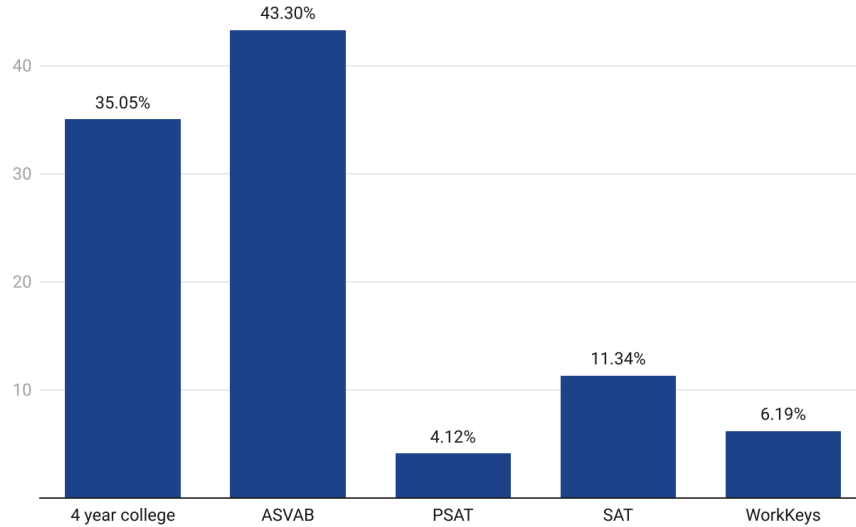


Figure 17: Percentages of students using alternative assessments for Pathway 4

## How do GPA and attendance relate to student pathway choice?

In general, average GPA and average percentage of days present at school decreased from pathway 1 to pathway 5, while the percentage of chronically absent students increased with each pathway. Notably, 62.7% of students who took the Evidence-Based Pathway were chronically absent, far above the district’s average chronic absenteeism rate. This may reflect part of the reason why they utilized the Evidence-Based Pathway, as it is difficult to meet academic requirements when missing so much classroom instruction.

	Pathway 1: Keystone Proficiency	Pathway 2: Keystone Composite	Pathway 3: Career and Technical Education	Pathway 4: Alternative Assessment	Pathway 5: Evidence- Based
Average Unweighted GPA	3.20	2.54	2.40	2.49	1.86
Average Percentage of Days Present	94.04%	91.98%	93.43%	89.97%	83.52%
Chronically Absent Students	15.89%	21.62%	24.07%	26.17%	62.66%

Figure 18: Average GPA and attendance record by pathway



## Limitations

- 2023 was the first year that the ACT 158 pathways were implemented. As with most new programs, not all the necessary supports and resources were in place in time to make every pathway as successful as possible. This will improve in future years. Because 2023 is the first year, there is also no data about how pathway choices will affect students in the future. We cannot assume that students will continue the post-graduate plan they have reported.
- The observations in this report do not give information about causality. For example, we cannot say whether the large proportion of chronically absent students who chose the Evidence-Based Pathway chose this pathway because of their lack of instruction or if they were chronically absent and chose the Evidence-Based Pathway due to another factor in their lives. This is the case for many correlations observed in this study.
- Finally, the class of 2023 was affected by the COVID-19 pandemic. It is possible that the pandemic influenced student success and altered pathway or post-graduate choices.

## Application & Recommendations

- There are a large number of students planning to attend college who did not meet the keystone proficiency requirement (Figure 15). Additional support should be provided to these students in the future. In the same vein, there were many students who used admittance to a 4-year college as their alternative assessment for the Alternative Assessment Pathway (Figure 17). If they are unable to meet keystone requirements but plan to pursue higher education, some attention should be paid to their preparedness.
- Significant disproportionalities are present in pathway selection based on several demographic categories (Figures 8-12). This is unsurprising given the district's equity work to address such disparities. Efforts should be made to ensure all students have an opportunity to reach the pathway that best prepares them for their future.
- Overall, there is not a substantial correlation between prior middle school and pathway (Figure 14). There was a slight relationship for students previously enrolled at Martin or coming from out of district. There may be a benefit in further analyzing who those out-of-district students are and which prior schools are most associated with students who utilize the Keystone Proficiency Pathway. Tracking Keystone data from out-of-district students can be a challenge, however, based on these findings it is critical given the higher number of those students utilizing the Keystone Proficiency Pathway.
- Academically, average GPA and average attendance record decrease from the Keystone Proficiency Pathway to the Evidence-Based Pathway, and the percentage of chronic absenteeism increases from Keystone Proficiency Pathway to the Evidence-Based Pathway (Figure 18). These new pathways were provided so that students who are struggling would still be able to graduate by proving their preparedness in an alternate manner. However, efforts should still be made to





increase GPA and attendance on average for students who take the Alternative Assessment Pathway and the Evidence-Based Pathway.

- While it is expected that a relatively large number of students with IEPs would take advantage of the special education waiver, that number exceeds 69% for the Class of 2023 (Figure 13). Special Education waivers were granted to 14.4% of the graduating class. Given the wide variety of types of Individualized Education Plans, more effort is needed to encourage students to meet one of the five pathways prior to defaulting to the special education waiver.
- This was the first year that alternative pathways were offered to students, but in the future it would be beneficial to track students long-term after graduation. With this data, we could analyze how student success after high school relates to the pathway they chose.



## References

S.B. 1095, ACT 158, 2018 General Assembly of the Commonwealth of Pennsylvania, 2018 Reg. Sess. (PA. 2018).

<https://www.legis.state.pa.us/cfdocs/billInfo/billInfo.cfm?sYear=2017&sInd=0&body=S&type=B&bn=1095>

## Act 158 Pathway Graphic

