

Ohio High School Outcomes and Career-Technical Education Outcomes

User Guide



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Overview

The Ohio High School and Career Technical Education Outcomes tools follow high school graduating cohorts for six years to show what students do after high school, tracking their paths into college, the workforce, and beyond. These tools provide insights for students, families, counselors, community members, educators, and policy makers. They also guide education and career planning, identify areas of improvement, and analyze return on investment for major education initiatives.

High School Outcomes Analysis

- **Highest Educational Attainment:**
 - Showcases highest educational attainment among Ohio high school students.
- **Education and Workforce Combined Status:**
 - Displays education and workforce status among Ohio high school graduates.
- **Post Secondary Enrollment and Attainment:**
 - Compares in-state college enrollment and attainment trends of all Ohio high school graduates.
- **In-State Employment Rate of High School Graduates:**
 - Captures the in-state employment rate of Ohio high school graduates by college enrollment status.
- **Earnings of Employed Graduation Cohorts:**
 - Features annual in-state earnings (adjusted to 2024 dollars) by highest educational attainment among Ohio high school graduates.

Career Technical Education Outcomes Analysis

- **Earnings of Employed CTE Cohorts:**
 - Features annual in-state earnings (adjusted to 2024 dollars) by highest educational attainment among CTE concentrators who graduated from high school.
- **In-State Employment Rate of CTE Concentrators:**
 - Captures the in-state employment rate of CTE concentrators by college enrollment status.
- **Post Secondary Enrollment and Attainment of CTE Concentrators:**
 - Compares in-state college and attainment trends of all Ohio CTE concentrators who graduated from high school.

Data Sources

- **2018-2023 EMIS Cohort Data:**
 - EMIS data offers public and private high school graduation records for the state of Ohio.
- **2018-2025 National Student Clearing House (NSC) Data:**
 - NSC data offers enrollment and graduation data for two-year, four-year, and public and private colleges for the state of Ohio.
- **2018-2025 Quarter 2 UI Wage Records Data:**
 - UI Wage Records provide individual, quarterly wage records collected from Ohio employers.

Suppression

The cohort counts and percentages are subject to suppression for counts of fewer than 10 individuals. The suppression rules also affect the High School and Career Technical Education Outcomes tools. See Appendix C for data caveats and further suppression details.

High School Outcomes

Getting Started

The Ohio High School Outcomes tool follows cohorts of high school graduates for six years to show career and educational pathways after graduating from high school. This tool provides insights for students, families, counselors, community members, educators, and policy makers to guide education and career planning, celebrate and identify areas of improvement, and analyze return on investment for major education initiatives.

- Visual 1: Highest Educational Attainment
- Visual 2: Education and Workforce Combined Status
- Visual 3: Post Secondary Enrollment and Attainment
- Visual 4: In-State Employment Rate of High School Graduates
- Visual 5: Earnings of Employed Graduation Cohorts

High School Cohorts

The Ohio Department of Education and Workforce (DEW) assigns cohorts based on the first time a student entered 9th grade from 2018 through 2023. The first visualization, Highest Educational Attainment, includes students who did not graduate from high school. All other analyses include only high school graduates who graduate on time, or within five years.

Each graduation cohort refers to the third quarter of the year through the second quarter of the following year. For example, Year 1 for the 2018 cohort captures activities from July 2018 through June 2019. Each year includes only cohorts with available data. See Appendix A for further context.

How to Navigate Legends and Measures

The legend on the left of each graph identifies the measures used in the visual. To learn more about how a measure is used, click on “Data Details” to see specific definitions of each measure. Every measure, excluding the suppressed measure, is subject to suppression for counts of fewer than 10 individuals. See Appendix B for data details and Appendix C for data caveats.

How to Create Customized Views

Use the filters at the top of a visual to customize what is displayed. All three filters must have selections to generate the desired view. Once applied, your filter selections remain consistent across the entire tool. To use a filter, click the black triangle on the right hand-side of the filter or the text below the filter title to open a drop-down menu, then select your preferred option.

Follow these steps to use the tool:

1. Select a **View By** option:
 - Statewide view of Ohio
 - JobsOhio Region
 - Ohio Public School District
 - Ohio Public High School
 - Ohio Career Technical Planning District
 - Career Technical Education
2. Choose your desired entity based on the **Select** filter.
3. Select a **High School Graduation Cohort**.

The example below displays filter selection for a statewide view of Ohio with the 2018 high school graduation cohort.

Select Filters for a Custom View

View By (Required)
Statewide

Select (Required)
Ohio

Select High School Graduation Cohort (Required)
2018

Tip: After selecting desired options in the filters, hover over the measures of each visual to see the applied filters, specific percentages of measures, and population of interest.

How to Change Graph and Table Displays

Once a user has selected their preferred filters, data can be viewed in both a graph and table format. Users can toggle between displays such as “Table by Count” and “Table by Percent” to view either the number of students or percentage of students in each education category.

Hovering over the visual will display the applied filters, percentages of the variable, and the denominators for the calculation of the percentages of students.

The legend on the left identifies each attainment category and suppressed values. Click “Data Details” to see specific definitions of each measure.

Graph:

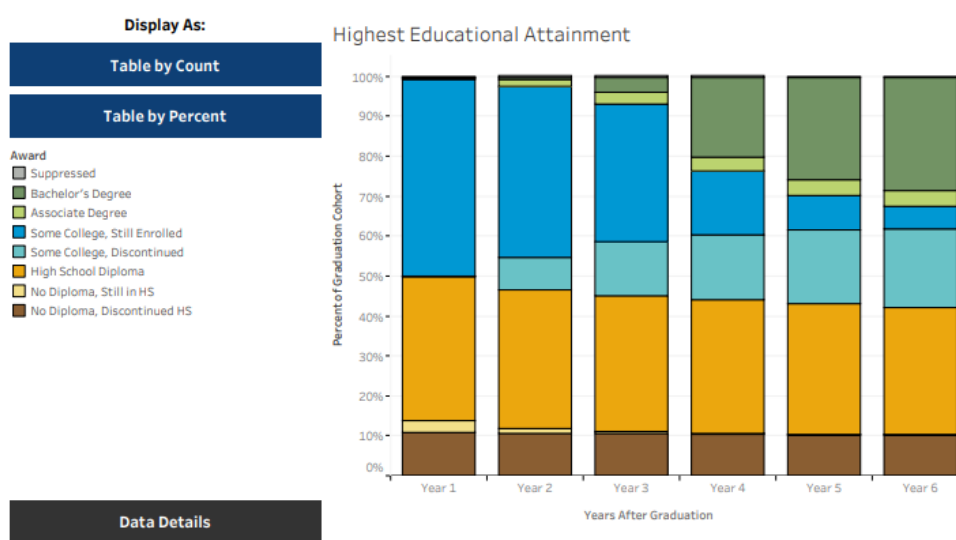


Table:

Display As:

Bar Chart

Table by Percent

Highest Educational Attainment: Count

	Year 1	Year 2	Year 3	Year 4
Suppressed	862	862	862	862
Bachelor Degree	74	801	5,208	27,715
Associate Degree	456	2,436	4,132	4,833
Some College, Still Enrolled	68,009	58,862	47,560	21,873
Some College, Discontinued		11,271	18,519	22,439
High School Diploma	49,839	47,765	46,894	46,096
No Diploma, Still in HS	4,221	1,684	653	136
No Diploma, Discontinued HS	14,934	14,714	14,567	14,437
Total Student Cohort	137,964	137,964	137,964	137,964

Statewide Ohio 2018

Visual 1: Highest Educational Attainment

The “Status 1: Highest Educational Attainment” visualization displays the distribution of students’ highest educational attainment over time for a selected high school graduation cohort. The stacked bar chart presents outcomes for each year after graduation (Year 1 through Year 6), with each color indicating a different level of educational attainment (such as high school diploma, some college, associate degree, or bachelor’s degree). This visualization is useful for tracking how educational outcomes evolve over time and for comparing the prevalence of different education attainment levels within a cohort.

Select Filters for a Custom View

View By (Required)
Statewide

Select (Required)
Ohio

Select High School Graduation Cohort (Required)
2018

Display As:

Table by Count

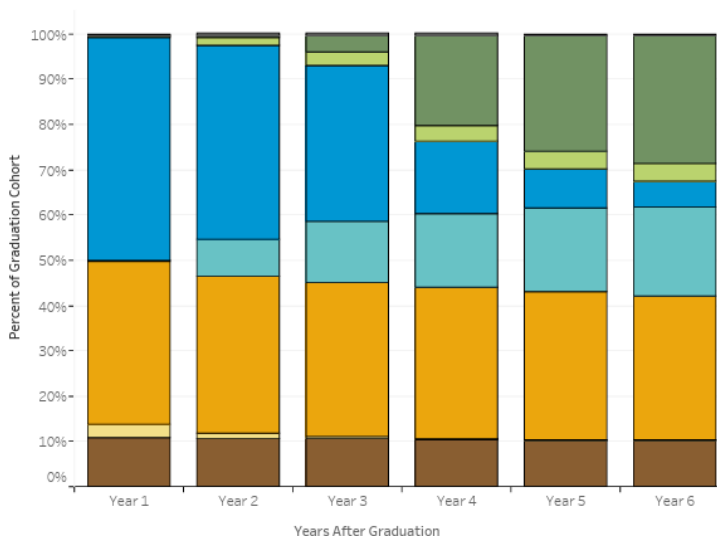
Table by Percent

Award

- ☐ Suppressed
- ☐ Bachelor's Degree
- ☐ Associate Degree
- ☐ Some College, Still Enrolled
- ☐ Some College, Discontinued
- ☐ High School Diploma
- ☐ No Diploma, Still in HS
- ☐ No Diploma, Discontinued HS

Data Details

Highest Educational Attainment



Key Measures:

- Suppressed
- Bachelor’s Degree
- Associate Degree
- Some College, Still Enrolled
- Some College, Discontinued
- High School Diploma
- No Diploma, Still in High School
- No Diploma, Discontinued High School

Suppressed: Percentage of students suppressed in measures with fewer than 10 students in order to protect privacy.

Bachelor's Degree: Percentage of students whose highest education outcome is a bachelor's degree or higher.

Associate Degree: Percentage of students whose highest education attainment is an associate degree.

Some College, Still Enrolled: Percentage of students who have not earned a degree and are currently enrolled in college.

Some College, Discontinued: Percentage of students who previously enrolled in college, and are not currently enrolled, and have not earned a degree.

High School Diploma: Percentage of students whose highest education outcome is a high school diploma (excluding equivalency credentials).

No Diploma, Still in High School: Percentage of students currently enrolled in high school.

No Diploma, Discontinued High School: Percentage of students who left high school without earning a diploma.

Educational categories are determined by high school graduation status from EMIS data, and college enrollment and degree statuses from NSC data. See Appendix B for more details.

Denominator

This analysis is based on all students in a graduation cohort, including four- and five-year high school graduates, students who are currently enrolled in high school, and students who did not graduate from high school.

Questions to Consider:

- What trends are evident as students transition from college enrollment to either degree completion or discontinued enrollment?
- By year six, what share of the cohort has a college degree? Does this pattern change when looking at different cohorts?
- For what percentage of students is a high school diploma their highest level of attainment six years after graduation?

Visual 2: Education and Workforce Combined Status

The “Status 2: Education and Workforce Combined Status” visualization displays a combination of education and workforce status over time for a selected high school graduation cohort. The stacked bar chart presents outcomes for each year after graduation (Year 1 through Year 6), with each color indicating a different level of education and work status (working without degree attained, working without degree attained, enrolled in college, not working). This visualization is useful for exploring how a cohort of high school graduates navigate work and educational attainment, and highlights workforce participation by highest degree attained among employed graduates.

Select Filters for a Custom View

View By (Required)
Statewide

Select (Required)
Ohio

Select High School Graduation Cohort (Required)
2018

Display As:

Table by Count

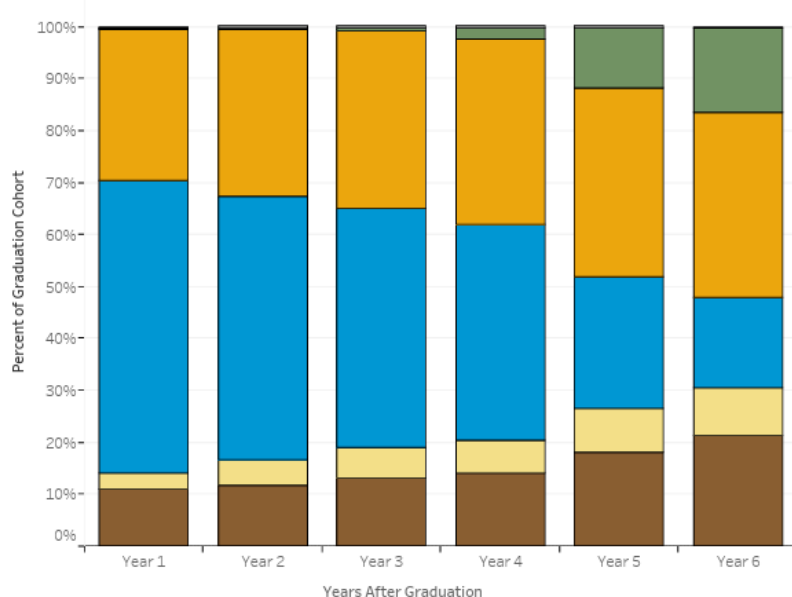
Table by Percent

Status

- Suppressed
- Working with Degree Attained
- Working without Degree Attained
- Enrolled in College
- Not Known to be Working
- Unknown Status

Data Details

Education and Workforce Combined Status



Key Measures:

- Suppressed
- Working with Degree Attained
- Working without Degree Attained
- Enrolled in College
- Not Working
- Unknown Status

Suppressed: Percentage of students suppressed in measures with fewer than 10 students in order to protect privacy.

Working with Degree Attained: Percentage of high school graduates employed in Ohio who have earned an associate degree or higher.

Working without Degree Attained: Percentage of high school graduates employed in Ohio who have not earned a postsecondary degree.

Enrolled in College: Percentage of high school graduates enrolled in a two-year or four-year institution.

Not Known to be Working: Percentage of high school graduates with no employment record in Ohio workforce data.

Unknown Status: Percentage of high school graduates not currently enrolled in college and not matched to Ohio workforce data.

Education and workforce status are categorized based on an individual's highest degree attained and employment status. Employment status is determined from ODJFS's UI Wage records based on having a work identifier and annual earnings of \$100 or greater per year. See Appendix B for measure details.

Denominator

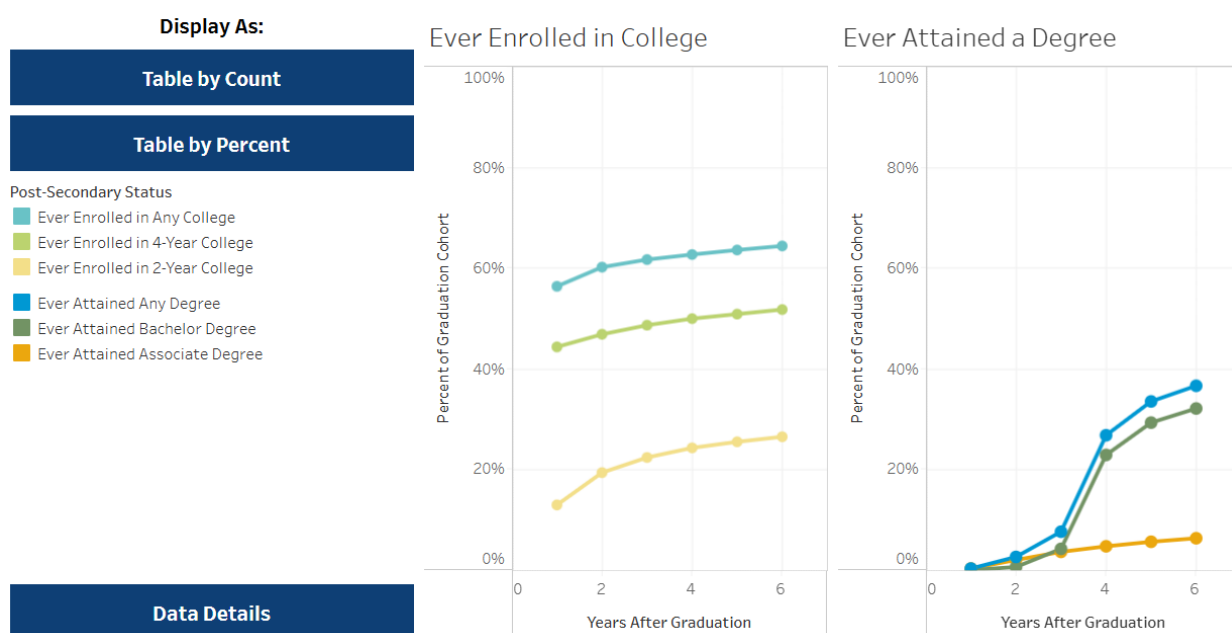
For this set of measures, high school graduates are members of a cohort who graduated high school within five years (such as those graduating on time or with an additional year).

Questions to Consider:

- What percentage of graduates goes directly from high school into the workforce?
- When do students typically transition from college enrollment to working, whether or not they earn a degree?
- Are the patterns consistent across different cohorts?

Visual 3: Post Secondary Enrollment and Attainment

The “KPI 1: Post Secondary Enrollment and Attainment” visualization displays cohort post-secondary enrollment and degree attainment rates. The two adjacent line graphs present post-secondary enrollment and degree attainment outcomes for each year after graduation (Year 1 through Year 6). Each color in both graphs indicate a different level of post-secondary status (ever enrolled in any college, ever enrolled in four-year college, ever enrolled in two-year college, any degree attainment, bachelor’s degree attainment, and associate degree attainment). This visual is helpful in presenting engagement with post-secondary institutions shortly after graduating high school and later earning a degree in subsequent years.



Key Measures:

- Ever Enrolled in Any College
- Ever Enrolled in 4-Year College
- Ever Enrolled in 2-Year College
- Ever Attained Any Degree
- Ever Attained Bachelor Degree
- Ever Attained Associate Degree

Ever Enrolled in Any College: Percentage of high school graduates that ever enrolled in college.

Ever Enrolled in 4-Year College: Percentage of high school graduates that ever enrolled in a four-year college.

Ever Enrolled in 2-Year College: Percentage of high school graduates that ever enrolled in a two-year college.

Ever Attained Any Degree: Percentage of high school graduates that obtained an associate, bachelor's, or higher degree.

Ever Attained Bachelor Degree: Percentage of high school graduates that obtained a bachelor's degree or higher.

Ever Attained Associate Degree: Percentage of high school graduates obtained an associate degree as the highest degree obtained.

Enrollment and degree attainment rates are based on NSC data and are categorized by institution type enrollment and degree obtained dates. Totals for overall enrollment and degrees attained are also included. Enrollment categories are inclusive for ever attempted enrollment regardless of degree completion. Degree attainment categorization is determined by degree completion. See Appendix B for measure details.

Denominator

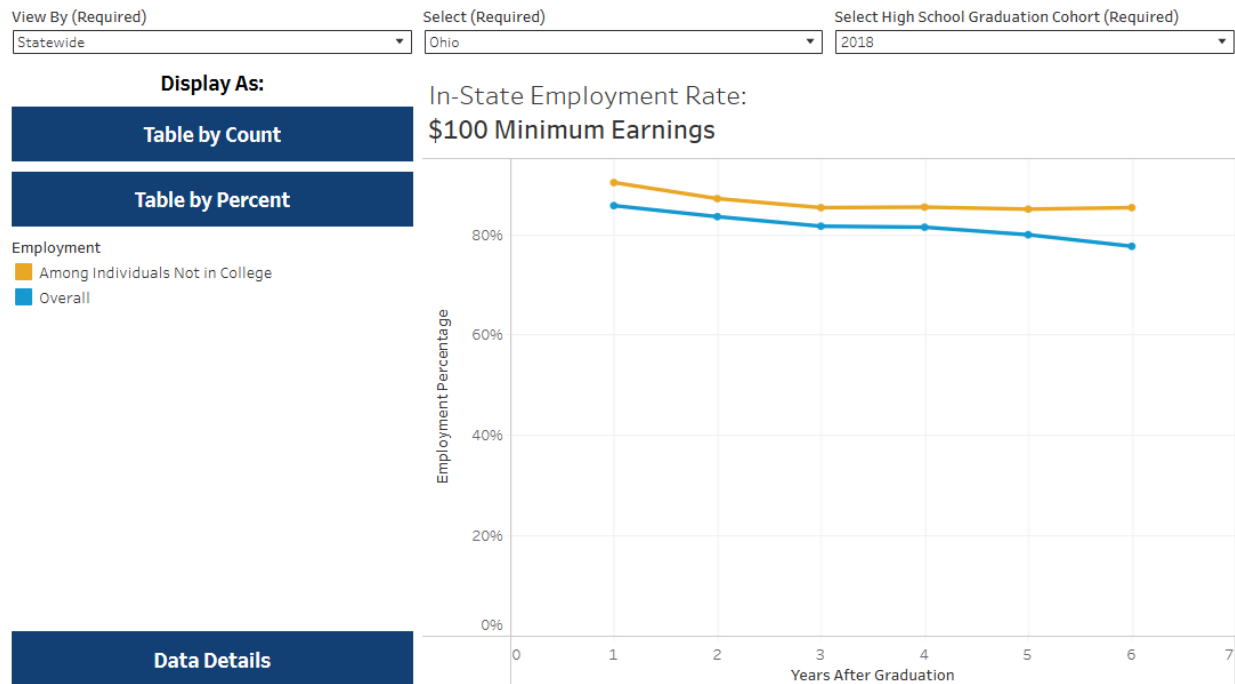
For this set of measures, high school graduates are members of a cohort who graduated high school within five years (such as those graduating on time or with an additional year).

Questions to Consider:

- How much time typically passes between when students enroll in college and when they earn a degree, and how does that differ by degree type?
- What patterns emerge around college enrollment and degree attainment? Do students who enroll in two-year or four-year programs complete their degrees?
- What differences do you see among different cohorts of students?

Visual 4: In-State Employment Rate of High School Graduates

The “KPI 2: In-State Employment Rate of High School Graduates” visualization displays a line chart of cohort employment for each year after graduation (Year 1 through Year 6). This line graph tracks students’ in-state employment status for overall workers and workers not enrolled in college for the six following years after expected high school graduation. This visualization helps users explore employment trends among Ohio’s high school graduates who work within the state of Ohio.



Key Measures:

- Among Individuals Not in College
- Overall

Among Individuals Not in College: Percentage of high school graduates who are employed in Ohio, among individuals not enrolled in college during the year.

Overall: Percentage of high school graduates who were employed in Ohio (regardless of their college enrollment status).

Employment rates are developed from the share of students with a work identifier in ODJFS's UI Wage records and annual earnings of \$100 or greater per year. See Appendix B for measure details.

Denominator

For this set of measures, high school graduates are members of a cohort who graduated high school within five years (those graduating on time or with an additional year) and are matched to Ohio workforce data.

Questions to Consider:

- What does the graph suggest about how employment rates differ over time between students who are enrolled in college and those who do not?
- Is the employment rate higher, lower or about what you expected for each cohort of graduates? Are there differences among the cohorts? What might explain those differences?

Visual 5: Earnings of Employed Graduation Cohorts

The “KPI 3: Earnings of Employed Graduation Cohorts” visualization displays the distribution of annual earnings of high school graduates for each year after graduation (Year 1 through Year 6). Each boxplot showcases the 25th percentile, median, and 75th percentile of earnings for each educational attainment category. This visual allows comparisons of the distribution of earnings across cohorts for all employed graduates, those without a college degree, and those with an associate degree or higher.

A \$50,000 annual reference line is included, and all earnings are adjusted to 2024 dollars.

Select Filters for a Custom View

View By (Required)
Statewide

Select (Required)
Ohio

Select High School Graduation Cohort (Required)
2018

Display As:

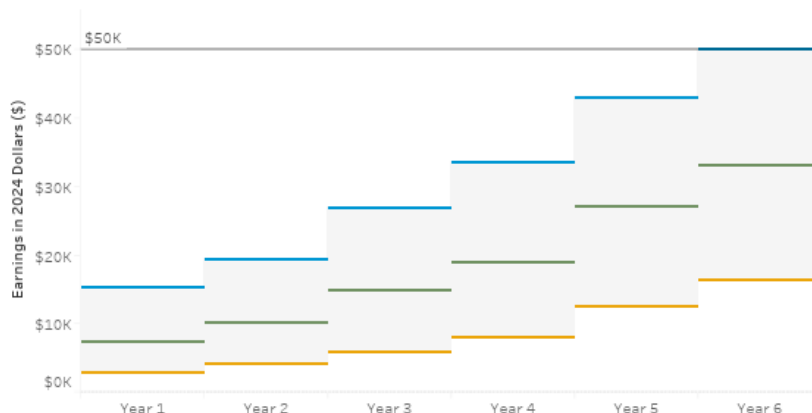
Table by Count

Cohort Percentile Earnings

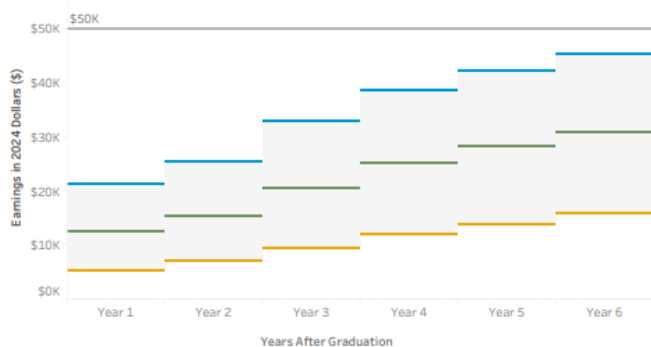
- 75th Percentile
- Median
- 25th Percentile

Data Details

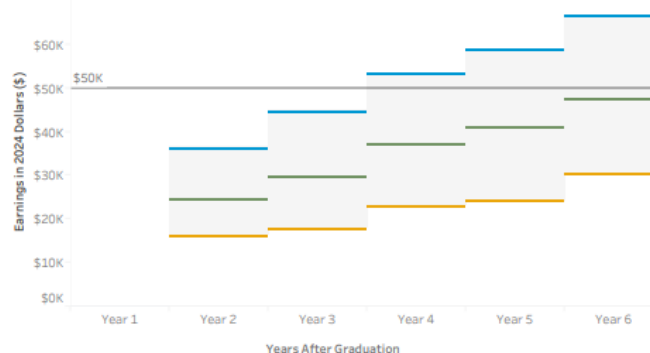
Earnings of Employed Graduation Cohorts: Overall



Earnings of Employed Graduation Cohorts: No Degree



Earnings of Employed Graduation Cohorts: Associate Degree or Higher



Key Measures:

- 75th Percentile Earnings
- Median Earnings
- 25th Percentile Earnings

75th Percentile: The earnings level at which *75% of employed graduates earn less and 25% earn more*, within the selected education group.

Median: The earnings level at which half of employed graduates earn more and half earn less, within the selected education group.

25th Percentile: The earnings level at which *25% of employed graduates earn less and 75% earn more*, within the selected education group.

Earnings are adjusted to 2024 dollars and categorized by highest degree attainment. Earnings are shown as boxplots to showcase the distribution of earnings. For example, median earnings represent that 50% of individuals earn less than that value, and 50% of individuals earn more than that value. See Appendix B for measure details.

Denominator

For this set of measures, high school graduates are members of a cohort who graduated high school within five years (those graduating on time or with an additional year) and are matched to Ohio workforce data.

Questions to Consider:

- Which educational attainment category sees the biggest increase in median earnings over time?
- What patterns do you see over time in the distance between the percentiles? Is the gap between the 25th and 75th percentiles relatively steady over time, or does it grow wider?

Career Technical Education Outcomes

Getting Started

The Ohio High School Outcomes: Career Technical Education (CTE) tool follows the cohort of career technical education concentrators for six years after high school as they navigate their education and work pathways. This tool provides insights for students, families, counselors, community members, educators, and policy makers to guide education and career plans, to celebrate and identify areas of improvement, and to analyze return on investment for major education initiatives.

- Visual 6: Earnings of Employed CTE Cohorts
- Visual 7: In-State Employment Rate of CTE Concentrators
- Visual 8: Post Secondary Enrollment and Attainment of CTE Concentrators

Career Technical Education Concentrators

The Ohio Department of Education and Workforce assigns cohorts based on the first time a student entered 9th grade from 2018 through 2023. All analysis capture CTE concentrators who are also high school graduates who graduate on time, or within five years.

Each graduation cohort refers to the third quarter of the year through the second quarter of the following year. For example, Year 1 for the 2018 cohort captures activities from July 2018 through June 2019. Each year includes only cohorts with available data. See Appendix A for further context.

How Years After Graduation are Calculated

Each *Year After Graduation* captures active graduating cohorts. For example, Year 1 includes the 2018 through 2023 cohorts. By Year 6, only the 2018 cohort remains. Each year includes only cohorts with available data. See Appendix A for further context.

- **Year 1** includes six cohort years (2018 through 2023) with data available from July 2018 through June 2024.
- **Year 3** includes four cohort years (2018 through 2021) with data available from July 2019 through June 2024.
- **Year 6** includes one cohort year (2018) with data available from July 2023 through June 2024.

How to Navigate Legends and Measures

The legend on the left of each graph identifies the measures used in the visual. To learn more about how a measure is used, click on “Data Details” to see specific definition of each measure. Every measure, excluding the suppressed measure, is subject to suppression for counts of fewer than 10 individuals. See Appendix B for data details and Appendix C for data caveats.

How to Create Customized Views

Use the filters at the top of a visual to customize what is displayed. Both filters must have selections to generate the desired view. Once applied, your filter selections remain consistent across the entire tool. To use a filter, click the black triangle on the right hand-side of the filter or the text below the filter title to open a drop-down menu, then select your preferred option.

Follow these steps to use the tool:

1. Select a **Career Technical Planning District (CTPD)** option.
2. Choose your desired **Career Technical Education (CTE)** field.

The example below displays filter selection for CTPD Great Oaks Career Campuses with CTE program Allied Health and Nursing.

Select Filters for a Custom View

Select CTPD (Required)

Great Oaks Career Campuses-200044

Select CTE Program (Required)

Allied Health and Nursing

Tip: After selecting desired options in the filters, hover over the measures of each visual to see the applied filters, specific percentages of measures, and population of interest.

How to Change Graph and Table Displays

Once a user has selected their preferred filters, data can be viewed in both a graph and table format. Users can toggle between displays such as “Table by Count” and “Table by Percent” to view either the number of students or percentage of students in each education category.

Hovering over the visual will display the applied filters, percentages of the variable, and the denominators for the calculation of the percentages of students.

The legend on the left identifies each attainment category and suppressed values. Click “Data Details” to see specific definition of each measure.

Graph:

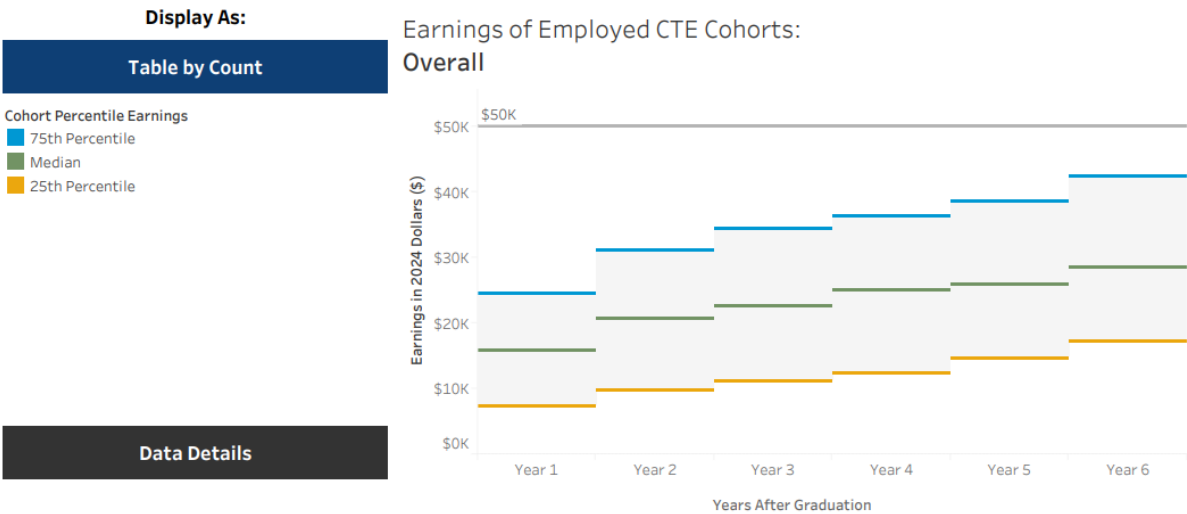


Table:

Display As:

Box Plot

Earnings of Employed CTE Cohorts:

Overall

	Great Oaks Career Campuses			
	Year 1	Year 2	Year 3	Year
75th Percentile	\$24,689	\$31,285	\$34,628	\$
Median	\$15,893	\$20,887	\$22,775	\$
25th Percentile	\$7,469	\$10,094	\$11,344	\$
Individuals Not in College	622	596	457	

Visual 6: Earnings of Employed CTE Cohorts

The “KPI 3: Earning of Employed CTE Cohorts” visualization displays the distribution of annual earnings of CTE concentrators for each year after graduation (Year 1 through Year 6). Each boxplot showcases the 25th percentile, median, and 75th percentile of earnings for each educational attainment category. This visual allows comparisons of the distribution of earnings across cohorts for all employed graduates, those without a college degree, and those with an associate degree or higher.

A \$50,000 annual reference line is included, and all earnings are adjusted to 2024 dollars.

Select CTPD (Required)
Great Oaks Career Campuses-200044

Select CTE Program (Required)
Allied Health and Nursing

Display As:

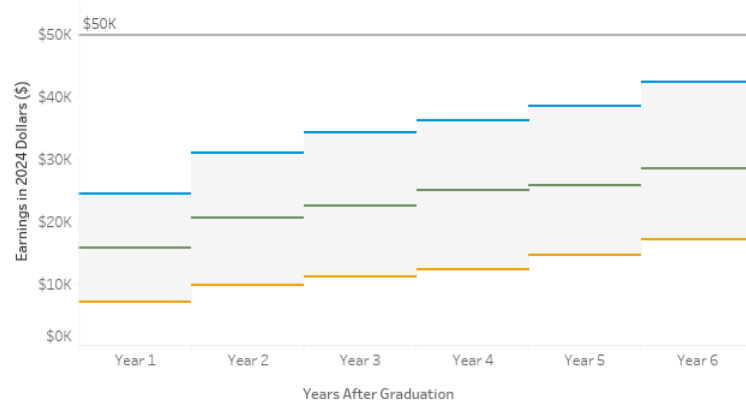
Table by Count

Cohort Percentile Earnings

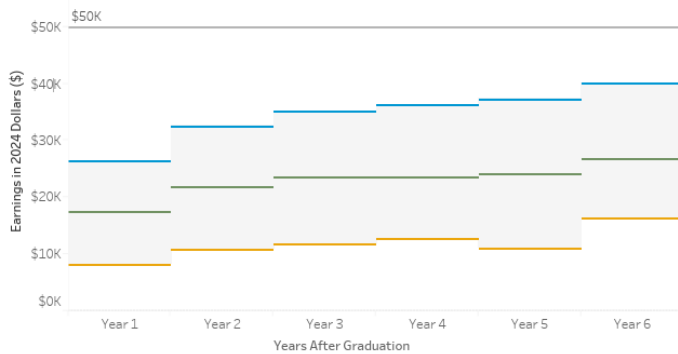
- 75th Percentile
- Median
- 25th Percentile

Data Details

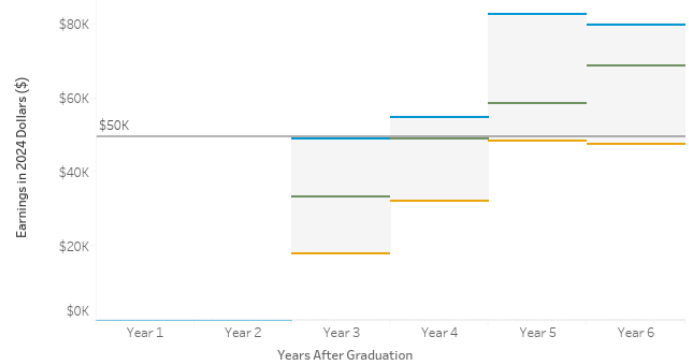
Earnings of Employed CTE Cohorts:
Overall



Earnings of Employed CTE Cohorts:
No Degree



Earnings of Employed CTE Cohorts:
Associate Degree or Higher



Key Measures:

- 75th Percentile Earnings
- Median Earnings
- 25th Percentile Earnings

75th Percentile: The earnings level at which *75% of employed graduates earn less and 25% earn more*, within the selected education group.

Median: The earnings level at which half of employed graduates earn more and half earn less, within the selected education group.

25th Percentile: The earnings level at which *25% of employed graduates earn less and 75% earn more*, within the selected education group.

Earnings are adjusted to 2024 dollars and categorized by highest degree obtainment. Earnings are shown as boxplots to showcase the distribution of earnings. For example, median earnings represent that 50% of individuals earn less than that value, and 50% of individuals earn more than that value. See Appendix B for measure details.

Denominator

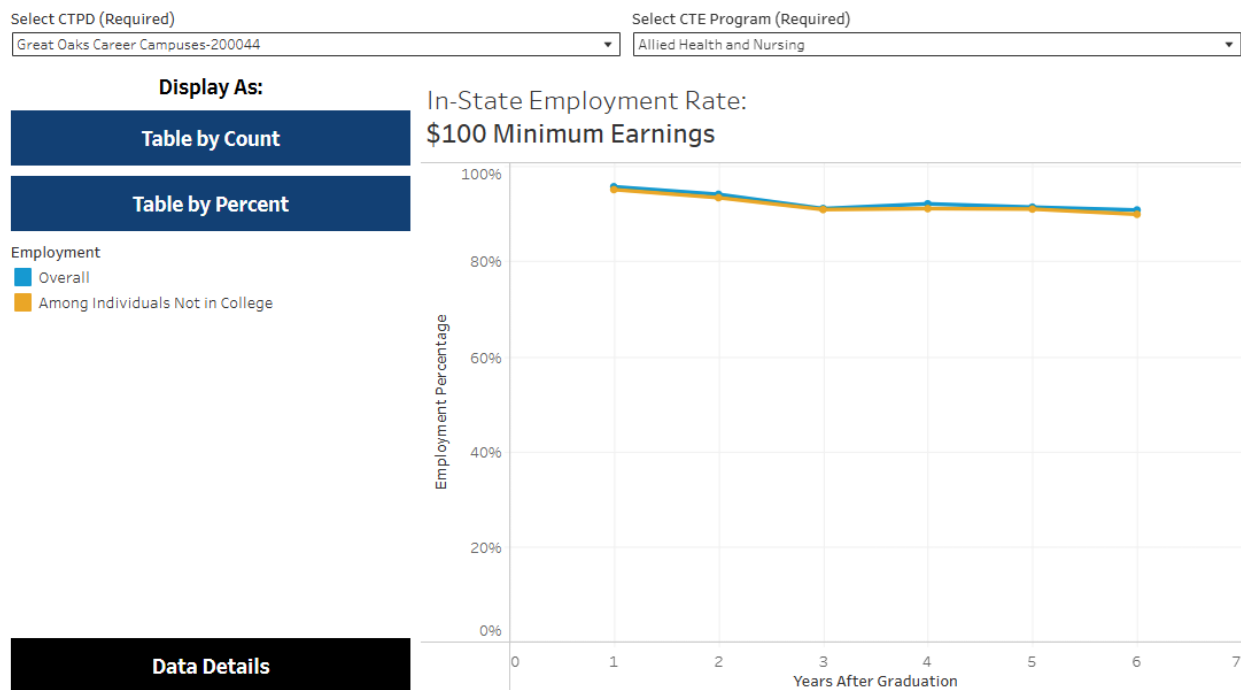
For this set of measures, the population of interest are members of a cohort who are CTE concentrators who graduated high school within five years (those graduating on time or with an additional year) and are matched to Ohio workforce data.

Questions to Consider:

- Which educational attainment category sees the biggest increase in median earnings over time?
- What differences are evident among CTE programs?
- What patterns do you see over time in the distance between the percentiles? Is the gap between the 25th and 75th percentiles relatively steady over time, or does it grow wider?

Visual 7: In-State Employment Rate of CTE Concentrators

The “KPI 2: In-State Employment Rate of CTE Concentrators” visualization displays a line chart of cohort employment for each year after graduation (Year 1 through Year 6). This line graph tracks students’ in-state employment status for overall workers, and workers not enrolled in college for the six following years after expected high school graduation. This visualization helps users explore employment trends among Ohio’s CTE concentrators who work within the state of Ohio.



Key Measures:

- Among Individuals Not in College
- Overall

Among Individuals Not in College: Percentage of CTE concentrators who are employed in Ohio, among individuals not enrolled in college during the year.

Overall: Percentage of CTE concentrators who were employed in Ohio (regardless of their college enrollment status).

Employment rates are developed from the share of concentrators with a work identifier in ODJFS's UI Wage records and annual earnings of \$100 or greater per year. See Appendix B for measure details.

Denominator

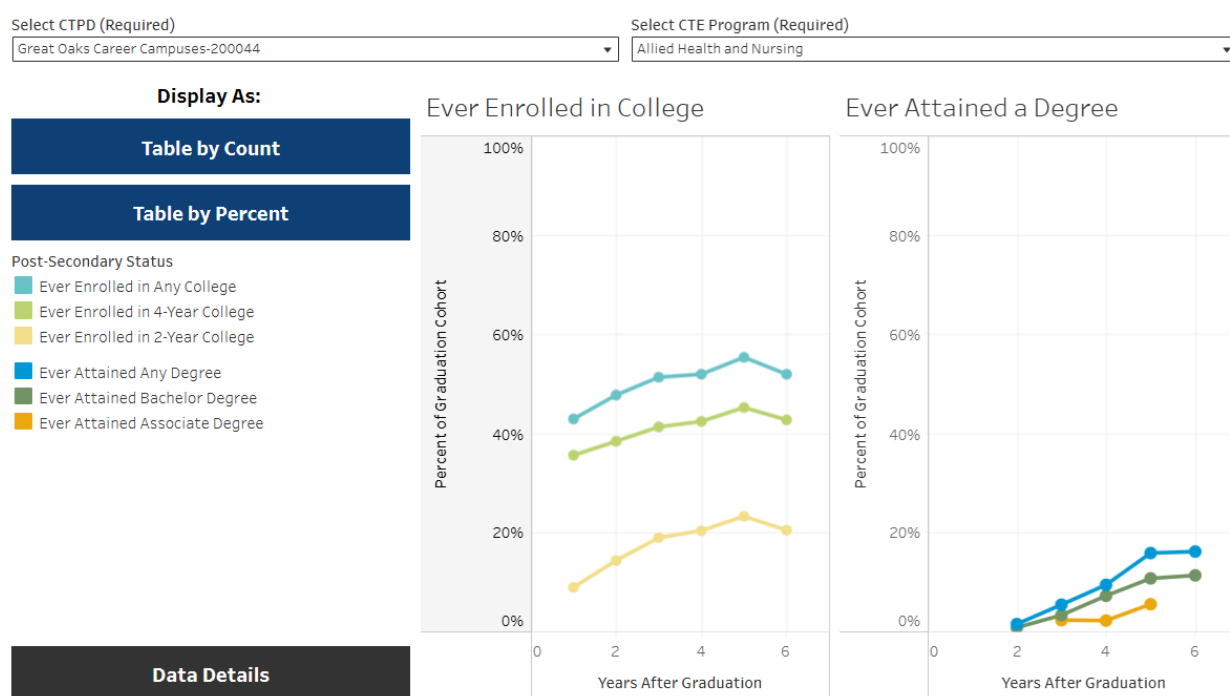
For this set of measures, the population of interest are members of a cohort who are CTE concentrators who graduated high school within five years (those graduating on time or with an additional year) and are matched to Ohio workforce data.

Questions to Consider:

- What does the graph suggest about how employment rates differ over time between CTE concentrators who are enrolled in college and those who are not?
- Is the employment rate higher, lower or about what you expected for each cohort of graduates? Are there differences among the cohorts? What might explain those differences?

Visual 8: Post Secondary Enrollment and Attainment of CTE Concentrators

The “KPI 1: Post Secondary Enrollment and Attainment of CTE Concentrators” visualization displays cohort post-secondary enrollment and degree attainment rates. The two adjacent line graphs present post-secondary enrollment and degree attainment outcomes for each year after graduation (Year 1 through Year 6). Each color in both graphs indicate different level of post-secondary status (ever enrolled in any college, ever enrolled in four-year college, ever enrolled in two-year college, any degree attainment, bachelor’s degree attainment, associate degree attainment). This visual is helpful in presenting engagement with post-secondary institutions shortly after graduating high school and later earning a degree in subsequent years.



Key Measures:

- Ever Enrolled in Any College
- Ever Enrolled in four-year College
- Ever Enrolled in two-year College
- Ever Attained Any Degree
- Ever Attained Bachelor Degree
- Ever Attained Associate Degree

Ever Enrolled in Any College: Percentage of CTE concentrators that ever enrolled in college.

Ever Enrolled in 4-Year College: Percentage of CTE concentrators that ever enrolled in a four-year college.

Ever Enrolled in 2-Year College: Percentage of CTE concentrators that ever enrolled in a two-year college.

Ever Attained Any Degree: Percentage of CTE concentrators that obtained an associate, bachelor's, or higher degree.

Ever Attained Bachelor Degree: Percentage of CTE concentrators that obtained a bachelor's degree or higher.

Ever Attained Associate Degree: Percentage of CTE concentrators obtained an associate degree as the highest degree obtained.

Enrollment and degree attainment rates are based on NSC data and are categorized by institution type enrollment and degree obtained dates. Totals for overall enrollment and degrees attained are also included. Enrollment categories are inclusive for ever attempted enrollment regardless of degree completion. Degree attainment categorization is determined by degree completion. See Appendix B for measure details.

Denominator

For this set of measures, the population of interest are members of a cohort who are CTE concentrators who graduated high school within five years (those graduating on time or with an additional year).

Questions to Consider:

- How much time typically passes between when CTE concentrators enroll in college and when they earn a degree, and how does that differ by degree type?
- What patterns emerge around college enrollment and degree attainment? Do students who enroll in two-year or four-year programs complete their degrees?
- What differences do you see among different cohorts of students?

Frequently Asked Questions

1. How do you define a cohort of students?
 - a. Students are assigned to a cohort based on the first time they entered 9th grade. For example, if a student entered 9th grade in school year 2019 for the first time, they are assigned to the 2022 cohort.
2. What do Year 1 – Year 6 mean in the Ohio Career Technical Education Outcomes tool?
 - a. For each cohort, we assume students graduate (or were supposed to graduate) in the second quarter of the year. Year 1 spans from the third quarter of that year through the second quarter of the following year. Year 2 spans from the third quarter of the following year through the second quarter of the subsequent year, and so forth. We calculate the years using the same definition for all students, including on-time and five-year graduates, as well as students who graduated high school in a later year and never graduated high school.
3. What is the denominator for each visualization in the Ohio High School Outcomes tool?
 - a. The denominator for Highest Educational Attainment (first visualization) is all students in a cohort.
 - b. The denominator for all other visualizations is on time and five-year high school graduates. Wherever applied, we limit the denominator to high school graduates who were not enrolled in college during a specific year.
4. Why do some visualizations seem incomplete?
 - a. We need to suppress any results based on fewer than 10 students.
5. Where can I find information about my STEM school?
 - a. Ohio STEM designated schools are unique in that they are both a high school and a school district. As such, STEM schools are represented in the tool as both a high school and a school district.
6. Can you reveal an individual student's information?
 - a. No, we cannot identify an individual student's information and must suppress any results that are based on fewer than 10 students.
7. How do you choose the sufficient income threshold?
 - a. We choose the \$50,000 as a “standard” sufficient income threshold.
8. Do you allow users to download the data?
 - a. Users may download PDF versions of the tool based on their selected filters. Data downloads are not available at this time.
9. In the Ohio CTE Outcomes, where can I find my CTPD building?
 - a. The Ohio CTE Outcomes showcases CTE concentrators by CTPD, and not by buildings that administer CTE programs.

Support & Contributions

This tool, user guide, and affiliated user materials were made possible through funding from the Ohio Department of Education and Workforce (“the Department” or DEW).

The information on the Ohio High School and Career Technical Education Outcomes tools is compiled by the Ohio Education Research Center (OERC) using data from the Ohio Longitudinal Data Archive (OLDA), as collected by the Ohio Department of Job and Family Services (ODJFS).

The Ohio Longitudinal Data Archive is a project of the Ohio Education Research Center (oerc.osu.edu) that provides researchers with centralized access to administrative data. The OLDA is managed by the Center for Human Resource Research (CHRR) at The Ohio State University (chrr.osu.edu), in collaboration with Ohio's state workforce and education agencies (olda.ohio.gov), which provide oversight and funding.

Information displayed on this tool may differ from information contained in federal or state reports due to variations in reporting metrics and data preparation procedures.

Data Sources

Information on this tool is compiled by the Ohio Education Research Center using data collected at the following state agencies:

Ohio Department of Job and Family Services:

- Unemployment Insurance Wage (UI Wage) data is quarterly wage data for employees in Ohio whose employers file unemployment insurance with the state.

Ohio Department of Education and Workforce:

- Education Management Information System (EMIS) records are included in the OLDA as collected by the Ohio Department of Education and Workforce (DEW). This data source is used to identify graduate cohorts.
- National Student Clearinghouse (NSC) is a national student-level higher education database that provides information Ohio and non-Ohio, public and private, two-year and four-year college enrollment, and degree attainment.

Appendix A: Basic Measures

The measures for the Ohio High School and Career Technical Education Outcomes tools are generated based on the following populations and subgroups in this study:

High School Cohort Year: Department-assigned cohort, based on the first time a student entered 9th grade.

High School Students: All students in a cohort, including:

- **High School Graduates:** On-time and five-year high school graduates. The number of high school graduates is the denominator for most measures.
- **Non-Graduates:** Still enrolled in high school and discontinued high school.

Years after High School Graduation: For each cohort, we assume students graduate in the second quarter of the year. *Year 1* spans from the third quarter of that year through the second quarter of the following year. *Year 2* spans from the third quarter of the following year through the second quarter of the subsequent year, and so forth. Table 1 shows the timeline of *Years 1* through 6 for each cohort for the Career Technical Education Outcomes tool.

Table 1: CTPD by CTE Concentrators Rollup

	Quarters	2018				2019				2020				2021				2022				2023				2024			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Cohort	2018			Year 1				Year 2				Year 3				Year 4				Year 5				Year 6					
	2019							Year 1				Year 2				Year 3				Year 4				Year 5					
	2020											Year 1				Year 2				Year 3				Year 4					
	2021															Year 1				Year 2				Year 3					
	2022																			Year 1				Year 2					
	2023																									Year 1			
	2024																												

College Enrollment: Whether a student enrolled in any Summer, Fall, or Spring semester during a given year.

- College enrollment records come from National Student Clearinghouse (NSC) data and include both private and public institutions, in Ohio and outside Ohio.
- We include full-time, three-quarter-time, half-time, and less than half-time enrollment records.
- For some measures, we distinguish between two-year and four-year college enrollment.
- When generating mutually exclusive categories, if a student is enrolled in both two-year and four-year colleges, the student is classified as a four-year college enrollee.

College Degrees: Whether a student obtained an associate, bachelor's, master's, or doctoral degree during a given year.

- Graduation records come from the NSC data and include degrees obtained from private and public institutions, in Ohio and outside Ohio.
- Certificates, credentials, and diplomas are not counted as a college degree in this study.

Employment: Students who earned at least \$100 (unadjusted for inflation) during a given year.

- All earnings are adjusted to the 2024 price level.
- The employment measure is based on Ohio Unemployment Insurance (UI) wage records which only includes employment in Ohio.
- Students without a unique identifier will not have any employment records because they cannot be matched to UI wage records.

Appendix B: Data Details

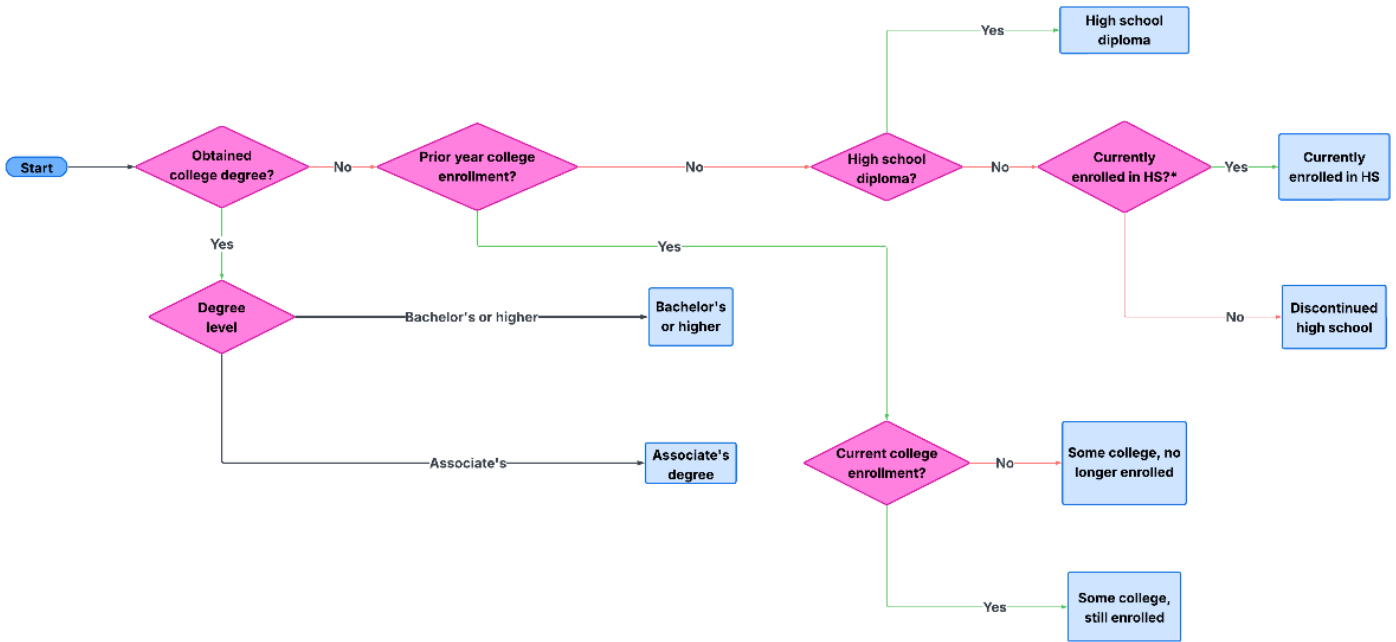
Highest Educational Attainment

This measure tracks students' highest educational attainment over time. The underlying sample (the denominator) consists of all students in a cohort, regardless of whether they graduated from high school. The categories in this set are mutually exclusive.

- **Bachelor's Degree or Higher:** The percent of students that obtained a bachelor's degree or higher as their highest education outcome.
- **Associate Degree:** The percent of students that obtained an associate degree as their highest education outcome.
- **Some College, Still Enrolled:** The percent of students that ever enrolled in college and are currently enrolled as their highest education outcome.
- **Some College, Discontinued:** The percent of students that ever enrolled in college and are not currently enrolled with no degree obtained as their highest education outcome.
- **High School Diploma:** The percent of students with a high school diploma as their highest education outcome.
- **Discontinued High School:** Total count of high school students who did not graduate from high school, are not currently enrolled in high school, are not currently enrolled in any higher education institutions, and do not have any associate or higher degrees.
- **No Diploma, Still in High School:** The percent of students currently in high school as their highest education outcome.
- **No Diploma, Discontinued High School:** The percent of students who did not graduate from high school as their highest education outcome.

The classification prioritizes a hierarchy descending by the highest degree obtained using the logic outlined in Figure 1. The classification begins with college degree completers based on the highest college attainment status of bachelor's degree or higher, followed by associate degree. Then the classification hierarchy tracks individuals currently enrolled in college but have not obtained a degree (Some college, still enrolled), or are no longer enrolled in college without obtaining a degree (Some college, no longer enrolled). Students with no degree obtainment or college enrollment statuses are classified by their high school completion status for high school diploma, or if they are currently enrolled in high school or if they discontinued high school.

Figure 1: Decision Process for Highest Educational Attainment



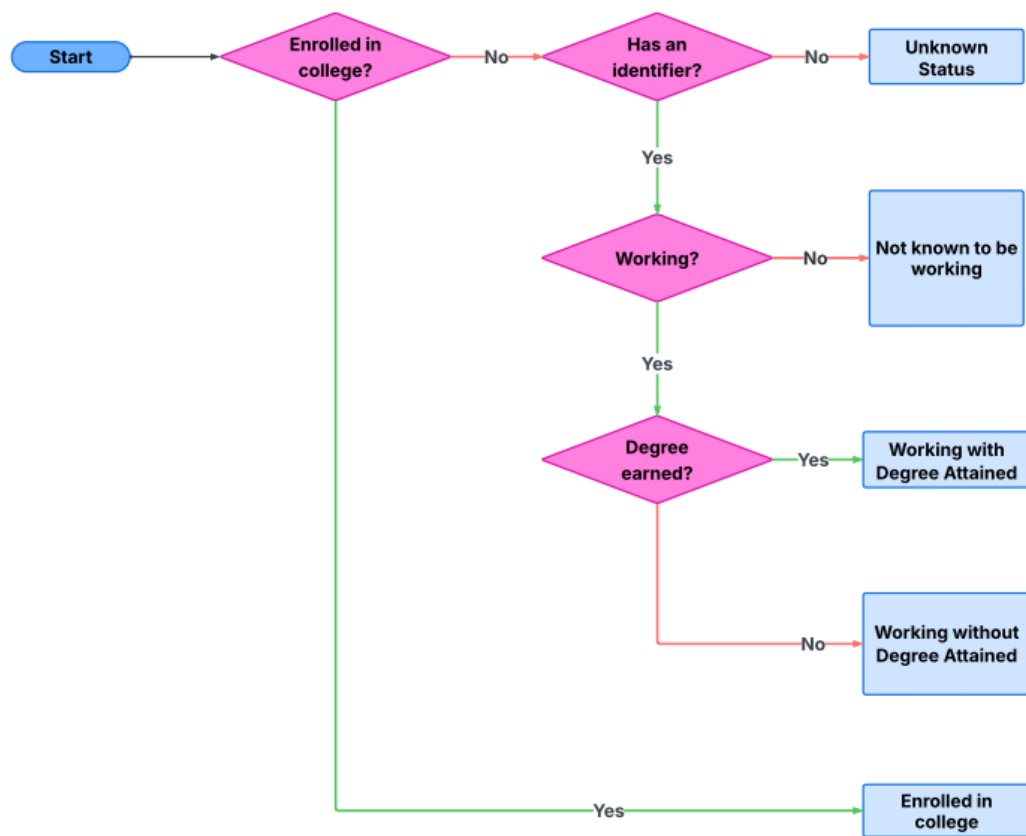
Education and Workforce Combined Status

This measure tracks a combination of education and workforce status over time. The underlying sample (the denominator) consists of all on-time and five-year graduates. The categories in this set are mutually exclusive:

- **Working with Degree Attained:** The percent of employed four- and five-year high school graduates with a bachelor's or associate degree.
- **Working without Degree Attained:** The percent of employed four- and five-year high school graduates with no post-secondary degree attainment records.
- **Enrolled in College:** The percent of four- and five-year high school graduates enrolled in a four-year or two-year institution.
- **Not Working:** The percent of four- and five-year high school graduates with no employment recorded in state workforce data.
- **Unknown Status:** The percent of high school graduates without an identifier that could be matched to state workforce data and/or post-secondary education data.

The classification prioritizes a hierarchy descending by degree of obtainment status followed by work status, and uses the logic outlined in Figure 2. High school graduates are classified by tiers of college enrollment, highest degree completion, and by working status. Categories are filtered first by those currently Enrolled in College (which includes two- and four-year institutions), followed by working status. Working status classifications are based on a unique identifier availability and employment status. Graduates who do not have a matched unique work identifier were classified as Unknown Status. Graduates with a matched unique work identifier are classified into Working without Degree Attained, or Working with Degree Attained, and if work status is unknown: Not known to be working.

Figure 2: Decision Process for Education and Workforce Combined Status



Post Secondary Enrollment and Attainment

This measure captures high school graduates' college enrollment and degree attainment. The underlying sample (the denominator) consists of all on-time and five-year graduates. The categories in this set are mutually exclusive:

- **Ever Enrolled in Any College:** The percent of four- and five-year high school graduates that ever enrolled in college.
- **Ever Enrolled in 4-Year College:** The percent of four- and five-year high school graduates that ever enrolled in a four-year college.
- **Ever Enrolled in 2-Year College:** The percent of four- and five-year high school graduates that ever enrolled in a two-year college.
- **Ever Attained Any Degree:** The percent of four- and five-year high school graduates that obtained an associate, bachelor's, or higher degree.
- **Ever Attained Bachelor Degree:** The percent of four- and five-year high school graduates that obtained a bachelor's degree or higher.
- **Ever Attained Associate Degree:** The percent of four- and five-year high school graduates that obtained an associate degree as the highest degree obtained.

In-State Employment Rate of High School Graduates

This measure captures high school graduates' enrollment in Ohio earning more than \$100 during a specific year. The underlying sample (the denominator) consists of all on-time and five-year graduates with a matched unique identifier. The categories in this set are mutually exclusive:

- **Overall:** High school graduates who are employed during the current year, regardless of their college enrollment status.
- **Among Individuals Not in College:** High school graduates who are employed and are not enrolled in college in the current year.

Earnings of Employed Graduation Cohorts

This measure captures high school graduates' earnings at the 25th, median, and 75th percentiles who were paid in Ohio. The underlying sample (the denominator) consists of all on-time and five-year graduates who were employed in Ohio. The categories in this set are mutually exclusive:

- **Overall:** Those who are employed and are not currently enrolled in college.
- **No Degree:** Those who do not have a degree in the current year.
- **Associate or Higher Degree Holders:** Those who have an associate or higher degree in the current year.

This measure compares earnings for all employed graduates, those with no college degree and those with an associate degree or higher. A \$50,000 annual reference line is included, and all earnings are adjusted to 2024 dollars. The categories in this set are mutually exclusive:

- **75th Percentile:** The earnings level at which 75% of employed graduates earn less and 25% earn more, within the selected education group.
- **Median:** The earnings level at which half of employed graduates earn more and half earn less, within the selected education group.
- **25th Percentile:** The earnings level at which 25% of employed graduates earn less and 75% earn more, within the selected education group.

Earnings of Employed CTE Cohorts

This measure captures CTE concentrators who are also high school graduates' earnings at the 25th, median, and 75th percentiles who were paid in Ohio. The underlying sample (the denominator) consists of all on-time and five-year graduates who were employed in Ohio. The categories in this set are mutually exclusive:

- **Overall:** Those who are employed and are not currently enrolled in college.
- **No Degree:** Those who do not have a degree in the current year.
- **Associate or Higher Degree Holders:** Those who have an associate or higher degree in the current year.

This measure compares earnings for all employed graduates, those with no college degree and those with an associate degree or higher. A \$50,000 annual reference line is included, and all earnings are adjusted to 2024 dollars. The categories in this set are mutually exclusive:

- **75th Percentile:** The earnings level at which 75% of employed graduates earn less and 25% earn more, within the selected education group.
- **Median:** The earnings level at which half of employed graduates earn more and half earn less, within the selected education group.
- **25th Percentile:** The earnings level at which 25% of employed graduates earn less and 75% earn more, within the selected education group.

In-State Employment Rate of CTE Concentrators

This measure explores Ohio's career technical concentrators' employment trends within the state of Ohio. The underlying sample (the denominator) consists of CTE concentrators who graduated high school within five years (those graduating on time or with an additional year). The categories in this set are mutually exclusive:

- **Among Individuals Not in College:** The percent of employed four- and five-year career technical concentrators not enrolled in college.
- **Overall:** The percent of employed four- and five-year career technical concentrators regardless of their college enrollment status.

Post Secondary Enrollment and Attainment of CTE Concentrators

This measure explores how concentrators move through postsecondary pathways by reviewing enrollment and degree-attainment trends. The underlying sample (the denominator) consists of CTE concentrators who graduated high school within five years (those graduating on time or with an additional year). The categories in this set are mutually exclusive:

- **Ever Enrolled in Any College:** The percent of four- and five-year career technical concentrators that ever enrolled in college.
- **Ever Enrolled in 4-Year College:** The percent of four- and five-year career technical concentrators that ever enrolled in a four-year college.
- **Ever Enrolled in 2-Year College:** The percent of four- and five-year career technical concentrators that ever enrolled in a two-year college.
- **Ever Attained Any Degree:** The percent of four- and five-year career technical concentrators that obtained an associate, bachelor's, or higher degree.
- **Ever Attained Bachelor Degree:** The percent of four- and five-year career technical concentrators that obtained a bachelor's degree or higher.
- **Ever Attained Associate Degree:** The percent of four- and five-year career technical concentrators that obtained an associate degree as the highest degree obtained.

Appendix C: Data Caveats

Suppression: The OERC only reports results derived from 10 or more individuals for privacy protection. For all visualizations, suppression counts that are 10 or more individuals are shown as variables. For each visual, subsets of categories might be suppressed, but total categories may not be suppressed since those counts may be higher than ten. For example, earnings for Associate Degree or Higher is suppressed for year 1, but statewide for the 2018 cohort and the Overall earnings is not suppressed.

Rollup: The CTPD tab is impacted by suppression, especially for small-serving CTPD and CTE concentrators. A roll-up strategy is implemented to account for suppression constraints, and the corresponding years follow the logic as shown in Table 2.

Table 2: CTPD by CTE Concentrators Rollup

Rollup Year	Cohort Range
1	2018-2023
2	2018-2022
3	2018-2021
4	2018-2020
5	2018-2019
6	2018

Identifier Match Rate: Employment data is based on Unemployment Insurance Wage (UI wage) records. A subset of students with unique work identifiers were linked to Ohio UI Wage records. Some students do not have a unique work identifier and are not in Ohio's UI Wage records. This may be due to work outside the state, for jobs not covered by UI Wages, or for non-working status. The cohort employment match rate is shown in Table 3 out of denominators of all students in a cohort.

Table 3: Cohort Employment Match Rate

Cohort	Percent Identifier Matched (den full cohort)	Percent Identifier Matched (den 4- and 5-year HS grads)	Percent Employed (den full cohort)
2017	79.0	80.2	78.2
2018	80.0	81.2	79.1
2019	80.1	81.1	79.2
2020	79.8	80.9	78.8
2021	79.5	80.6	78.3
2022	78.3	79.5	76.7
2023	76.0	77.5	73.7