

# College-Going Patterns Analysis

Yaqi Zhang

## Questions to be Addressed

The project explores college enrollment patterns among Ohio high school graduates and how those patterns vary by students' backgrounds and academic performance. By comparing counties, test score levels, and socioeconomic status, we aim to identify the types of institutions students choose and assess whether specific groups are more likely to enroll in particular kinds of colleges. The analysis seeks to answer the following questions:

- What types of colleges do Ohio high school graduates attend – by state (in-state vs. out-of-state), sector (public vs. private), and year type (2-year vs. 4-year) – and how do these patterns differ across student groups, such as test performance level and economic disadvantage status?
- What are the most frequently attended colleges for students from each county, and what are the demographic characteristics of the students enrolled in those institutions?

## Data

### Sources:

#### National Student Clearinghouse (NSC):

- A nonprofit organization that provides educational reporting, verification, and research services. Its network includes approximately 3,600 institutions, representing about 96% of postsecondary enrollments in the United States

#### Ohio Department of Education and Workforce (DEW) Database:

- Contains statewide longitudinal data on Ohio public school students, including demographics, test scores, and graduation records
- ### Key Datasets:
- College Enrollment Records:** institution attended, enrollment dates, enrollment status, degree completion, and declared major
  - Graduation and Assessment Records:** cohort year, diploma status, ACT/SAT scores, and remediation-free indicators
  - Institutional Information:** details on high schools, school districts, and colleges, including name, type, sector, and county location
  - Student Demographics:** gender, race, and economic disadvantaged (ED) status

### Data Preparation: R programming

#### Cleaning:

- Filtered for students with confirmed diplomas and selected their first attended college
- Removed duplicates by keeping the latest valid record per statewide student identifier (SSID)

#### Standardization:

- Aligned variable names and format across datasets for consistency

#### Merging:

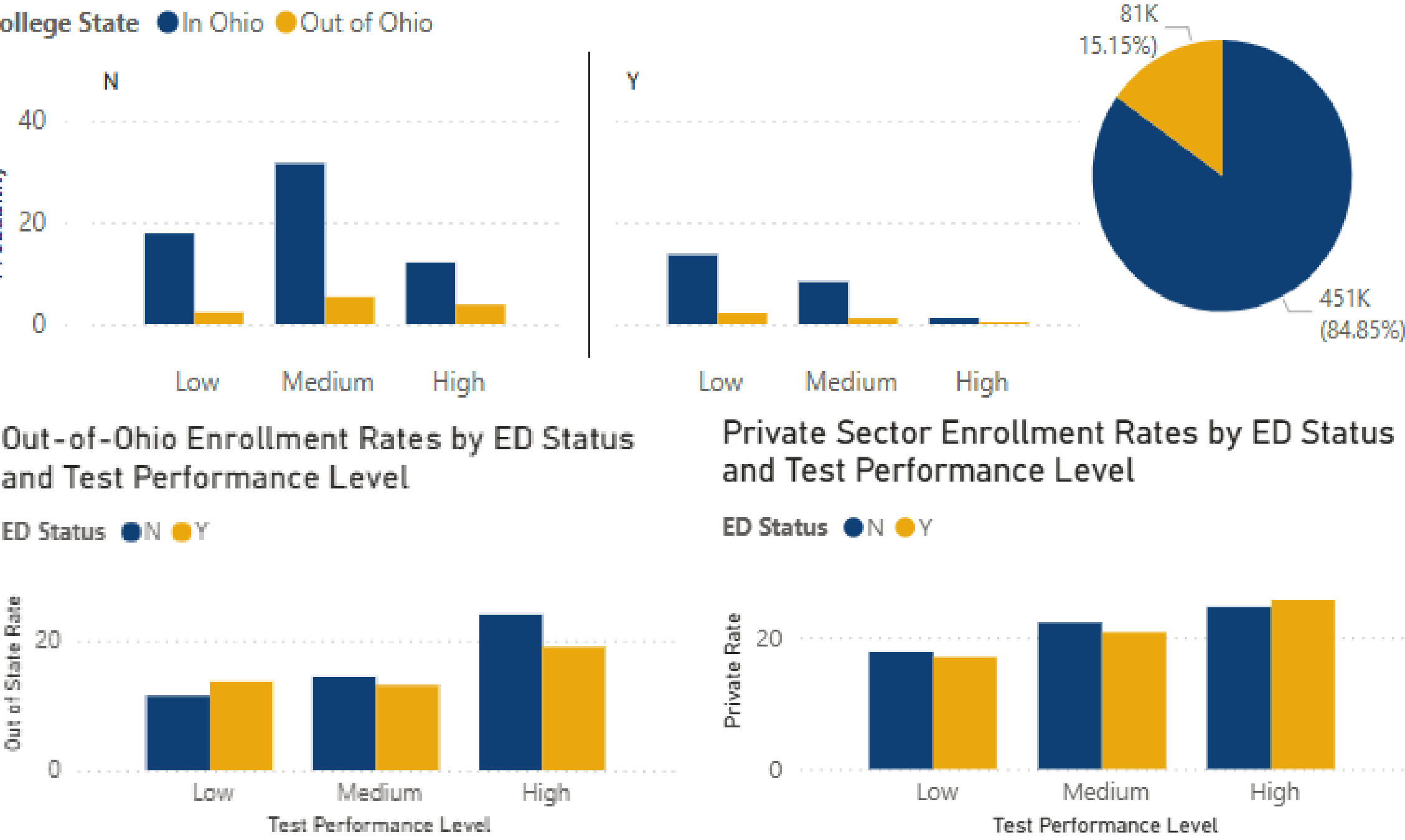
- Created a unified dataset with one row per student, combining demographic, academic, and college enrollment data

## College Type Enrollment Breakdown

### College State

The majority of Ohio high school graduates attend in-state colleges. Out-of-state enrollment rate increases with higher test performance, especially among non-economically disadvantaged students. While ED students generally have lower college-going rates and are underrepresented at the highest test level, those with lower scores are slightly more likely to attend out-of-state institutions. This may reflect the impact of targeted scholarships or special recruitment initiatives.

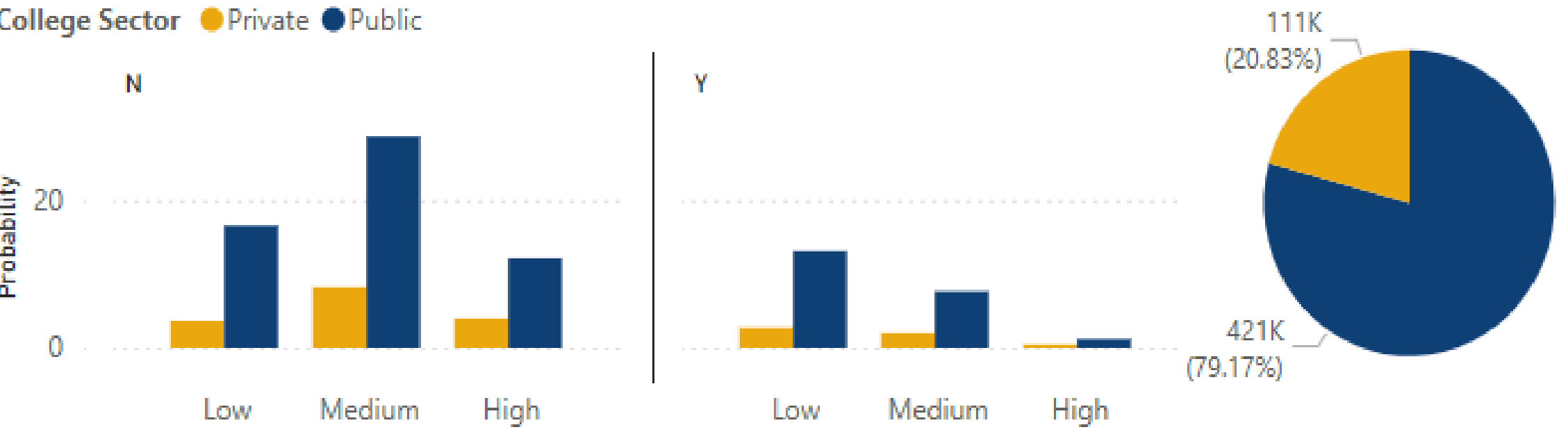
#### College State Enrollment by ED Status and Test Performance Level



### College Sector

Most graduates attend public colleges. However, private college enrollment increases with test performance across both ED and non-ED students, indicating a shift toward private institutions at higher score levels. Among high-performing students, ED students are slightly more likely than their non-ED peers to enroll in private colleges—possibly due to access to competitive scholarships or financial aid opportunities.

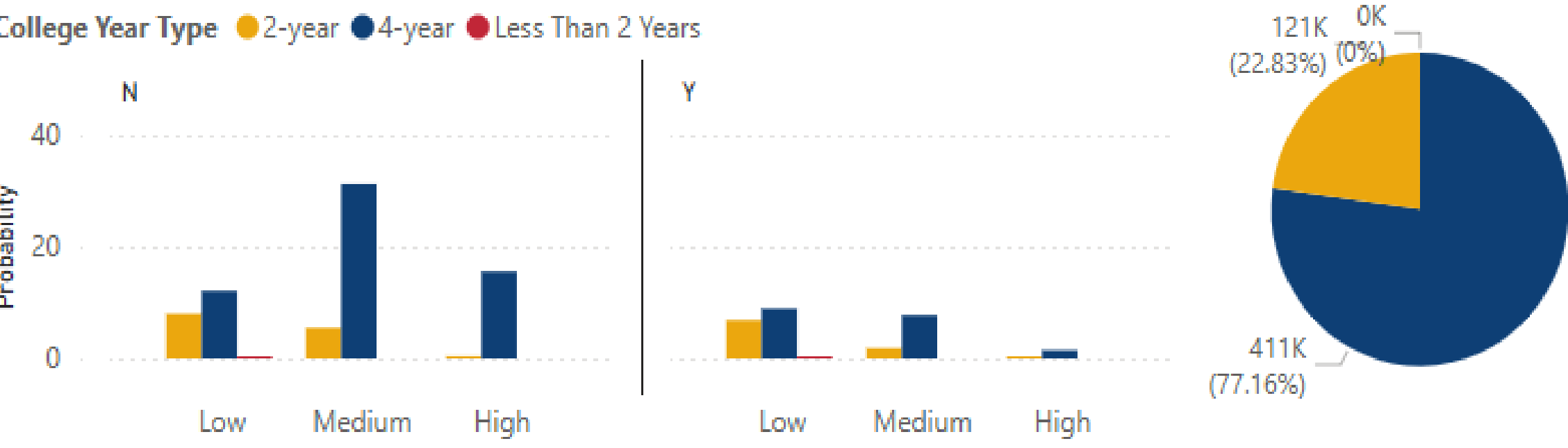
#### College Sector Enrollment by ED Status and Test Performance Level



### College Year Type

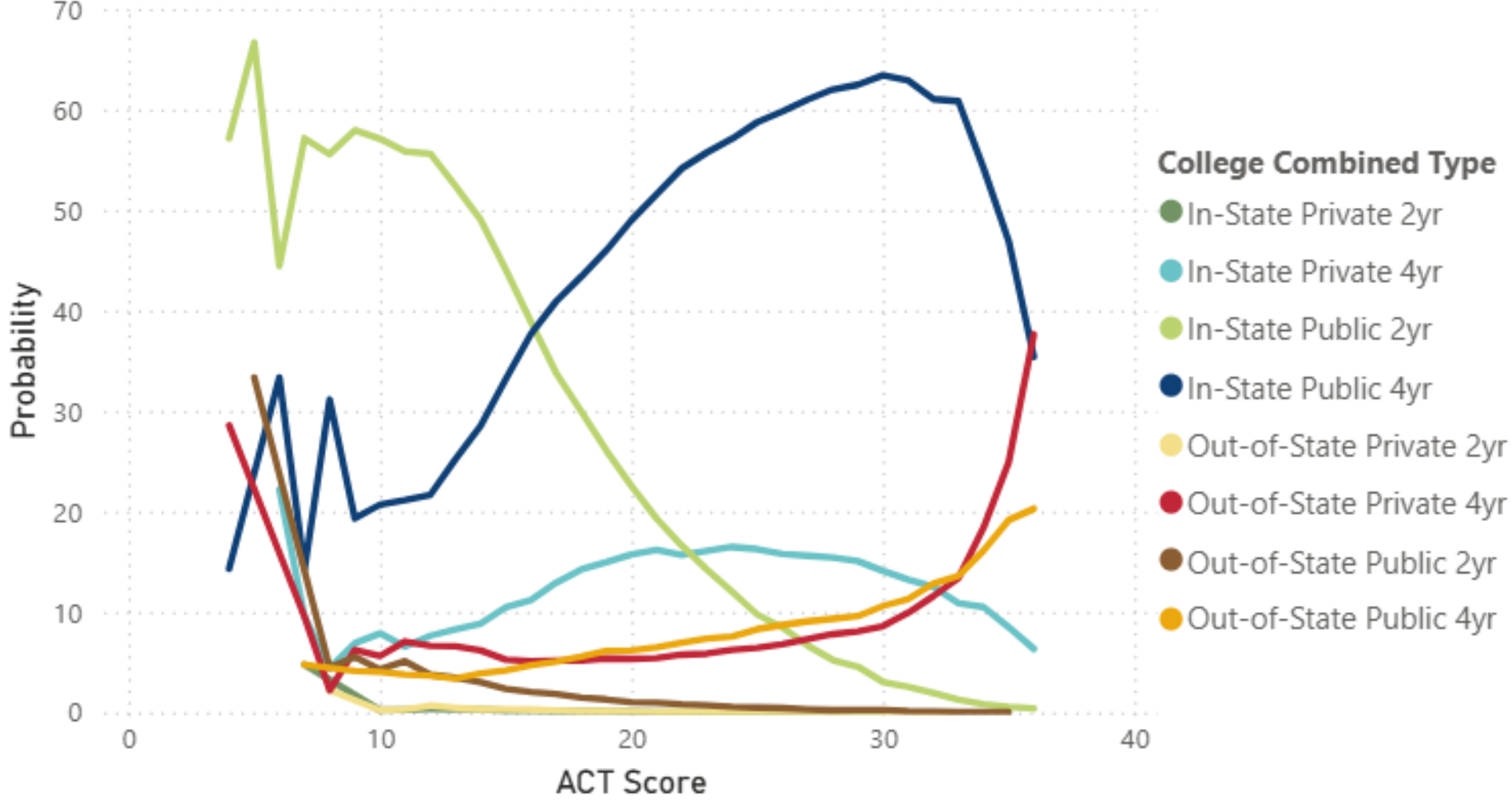
Most graduates attend 4-year colleges, followed by 2-year institutions. Only 0.003% enroll in programs less than 2 years, primarily among low-performing students. ED students are more likely to attend 2-year colleges, particularly at lower test performance levels. In contrast, 4-year college attendance increases with test scores across both ED and non-ED groups.

#### College Year Type Enrollment by ED Status and Test Performance Level



## College Combined Dimensions Enrollment

### College Combined Type Enrollment across ACT Score

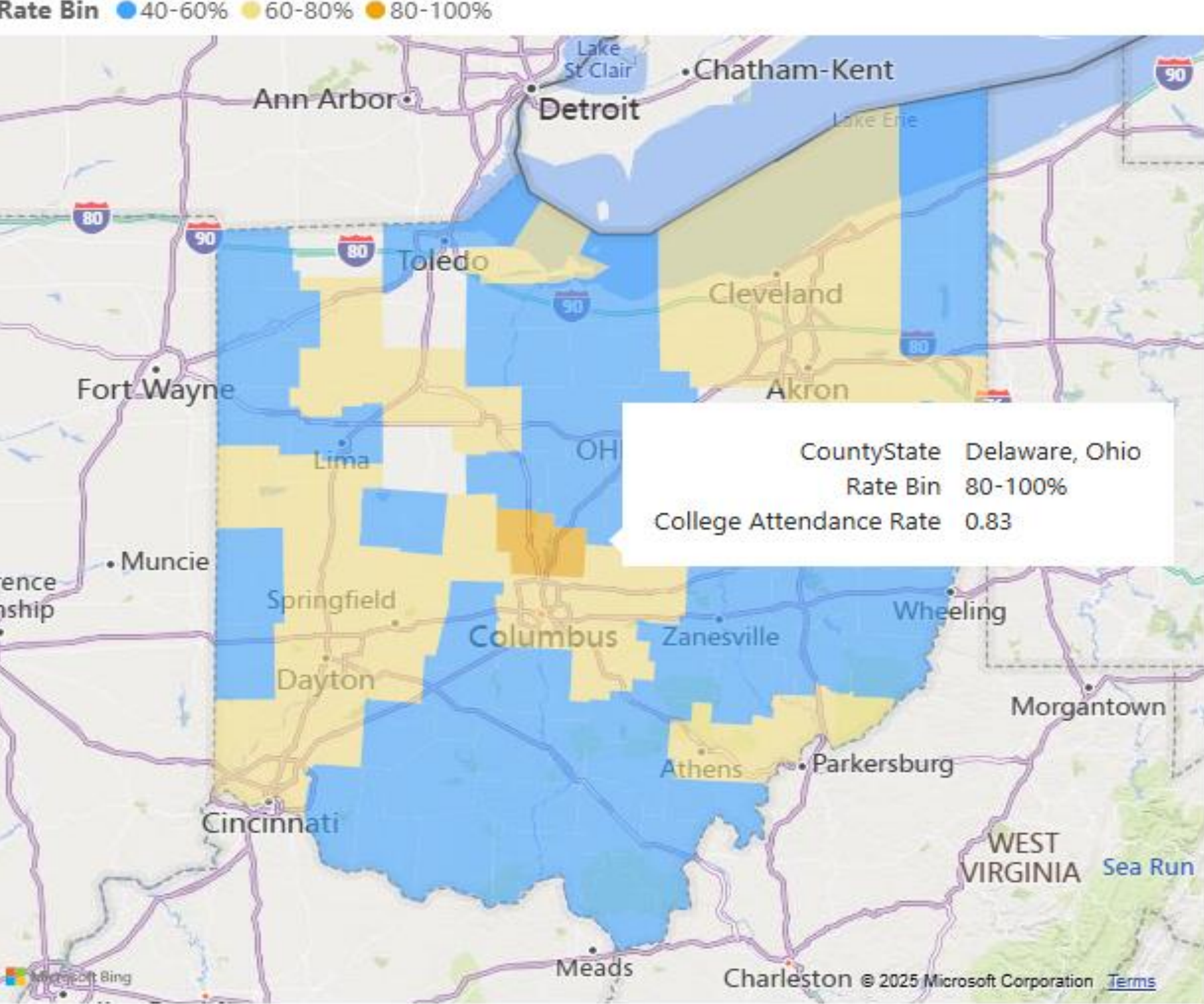


The chart illustrates how college enrollment patterns across eight combined types of institutions vary by ACT score. Students with lower scores predominantly enroll in in-state public 2-year colleges. As ACT scores increase, enrollment in in-state public 4-year institutions rises sharply, peaking around a score of 30 before declining. In contrast, out-of-state public 4-year enrollment shows a gradual upward trend across the ACT spectrum. Notably, out-of-state private 4-year enrollment increases moderately at first, then rises sharply after ACT scores exceed 30—ultimately surpassing in-state public 4-year enrollment at the highest score levels.

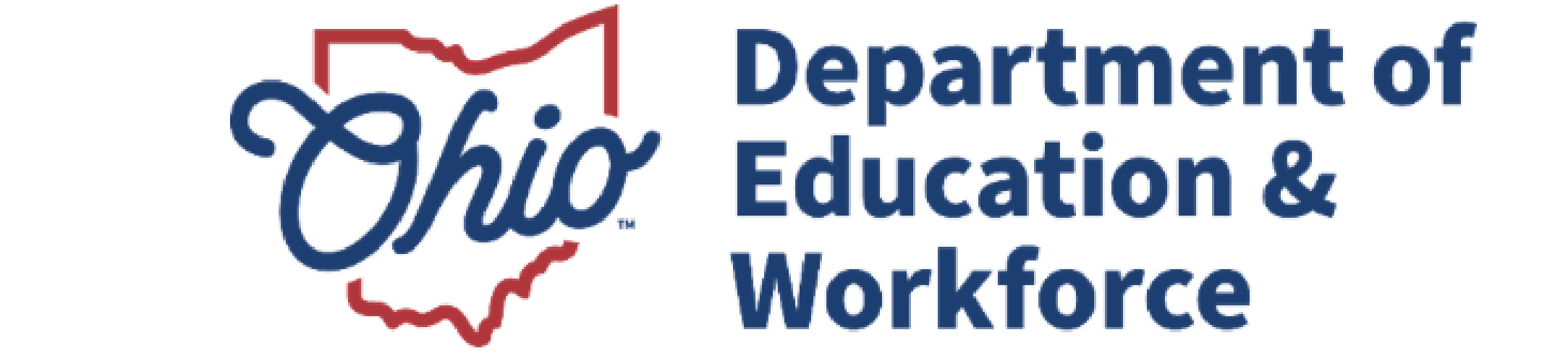
These trends suggest that high-performing students are more inclined to attend out-of-state 4-year institutions, particularly private ones, likely due to differences in academic reputation, specialized programs, and greater institutional resources compared to public colleges.

## County-Level College Attendance Rate

### College Attendance Rate by County

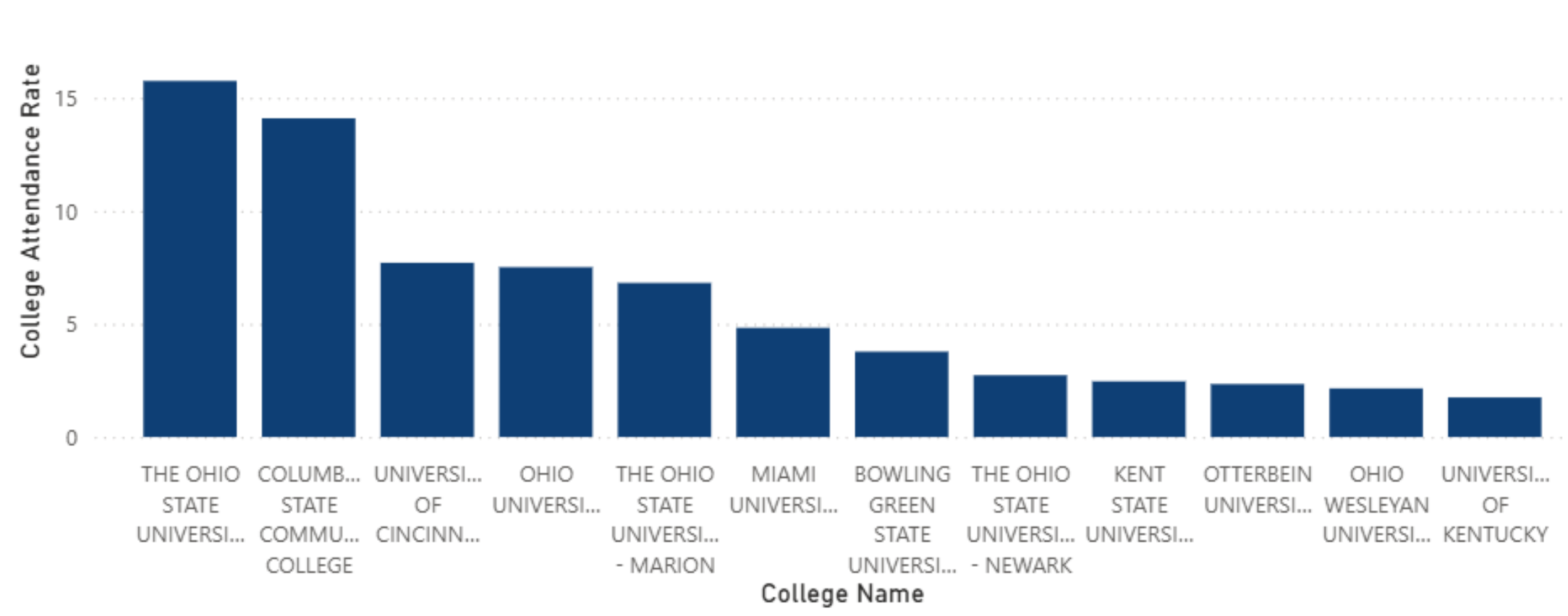


This filled map shows overall college enrollment rates by county, without filters applied. Shading reflects the percentage of high school graduates enrolling in college. Delaware County stands out with the highest enrollment rate in Ohio.



## Top 10 Colleges Attended by Students from Delaware County

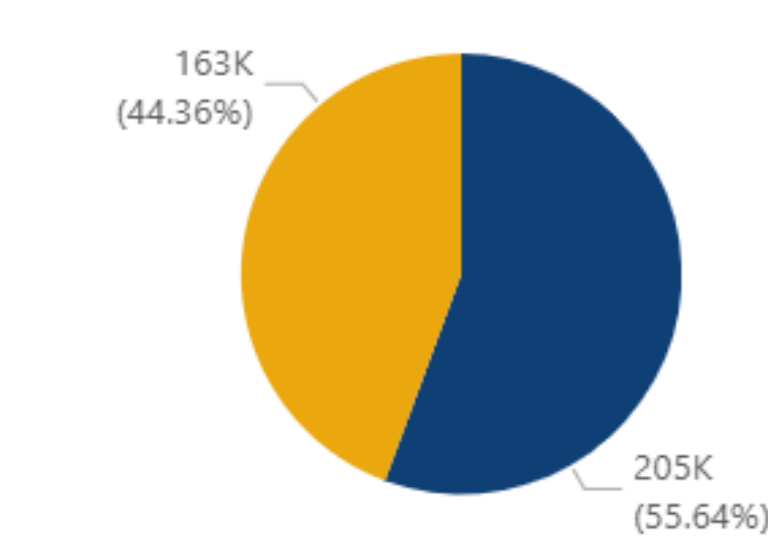
### Top 10 Colleges Attended by Students from Selected County



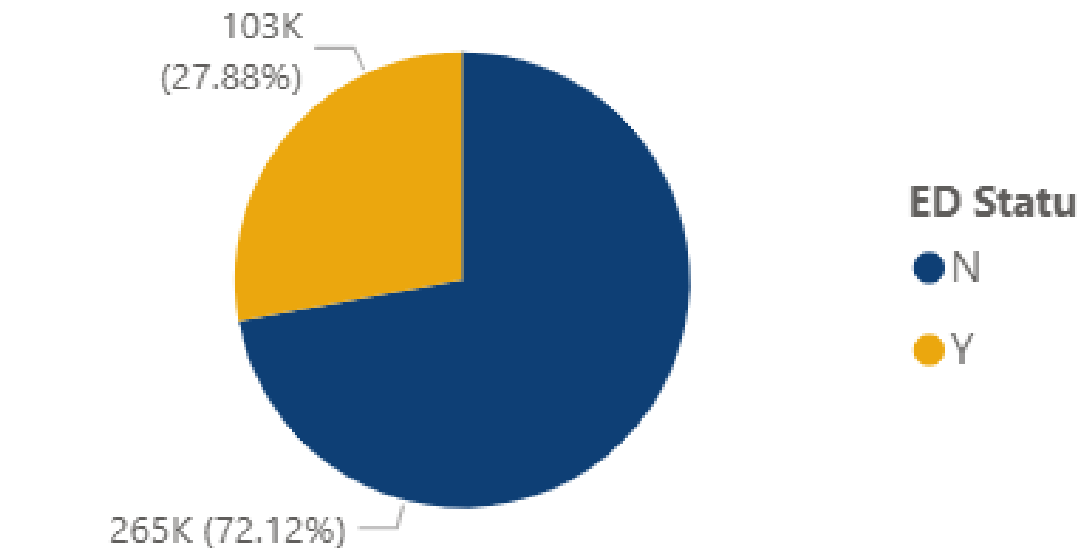
With limited in-county college options, most Delaware County graduates enroll in institutions outside the county. Top destinations include The Ohio State University and Columbus State Community College—both located in neighboring counties—which may be attributed to OSU's strong academic reputation and the established transfer pathway from CSCC to OSU.

## Demographic Breakdown

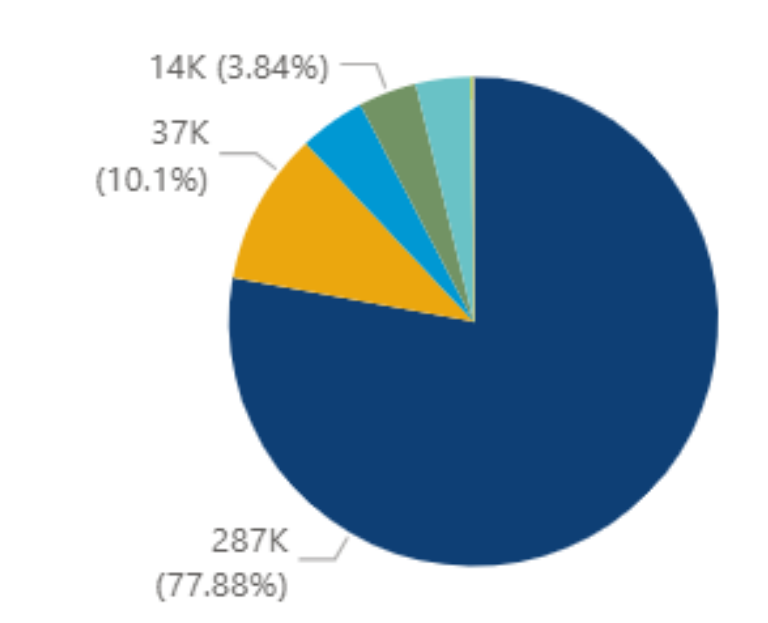
### Gender Distribution



### ED Status Distribution



### Race Distribution



Among Delaware County graduates attending the top 10 most frequently chosen colleges, the majority are female and not identified as economically disadvantaged. The student population is predominantly White, followed by Black and Hispanic students.

## Bibliography

- National Student Clearinghouse. (n.d.). *About the Clearinghouse*. Retrieved July 16, 2025, from <https://www.studentclearinghouse.org/about/>
- Illinois Student Assistance Commission. (n.d.). *National Student Clearinghouse*. Retrieved July 16, 2025, from <https://www.isac.org/faas/processes/verification-of-enrollment/national-student-clearinghouse.html>

## Acknowledgments

OERC: Dr. Josh Hawley, Ceanna Burnheimer, Xiangyu Ren  
ODEW: Eben Dowell, Mark Richards, Steven Chilinski, Sara Stokes  
My Fellow Interns: Killian Hoyt, Floria Liu, Zachary Howes