EPIC
Education Policy Innovation Collaborative

Teacher Shortages & Progress Through the Teacher Pipeline

Tara Kilbride, Ph.D.

Interim Associate Director, EPIC

Disclaimer: This research result used data structured and maintained by the MERI-Michigan Education Data Center (MEDC). MEDC data is modified for analysis purposes using rules governed by MEDC and are not identical to those data collected and maintained by the Michigan Department of Education (MDE) and/or Michigan's Center for Educational Performance and Information (CEPI). Results, information, and opinions solely represent the analysis, information, and opinions of the author(s) and are not endorsed by, or reflect the views or positions of, grantors, MDE, and CEPI or any employee thereof.

BACKGROUND

Today's presentation will include results from two recent studies about Michigan's teacher workforce.

MICHIGAN TEACHER SHORTAGE STUDY

Legislatively-mandated annual report due Jan 1st of each year, covering 4 main topics:

1) Educator Vacancies

2) Retention Rates

3) Teacher Prep Graduates

4) Highest-Need Regions

TRACKING PROGRESS THROUGH MICHIGAN'S TEACHER PIPELINE

Changes in the size and diversity of the pool of [prospective] MI teachers at various stages:

1) Postsecondary coursework

2) Student Teaching

3) Licensure Testing

4) Initial Certification

5) Early Career

EPIC

DATA AND METHODS

Our analyses combine data from several state databases and publicly available resources.

Michigan Student Data System (MSDS)

Shortage: courses taught as "teacher of record," location of home district

Pipeline: HS graduation, undergrad enrollment, teacher ed coursework, student teaching

Registry of Educational Personnel (REP)

Shortage: employment status, duration, location, job assignment, mobility, retention/attrition

Pipeline: initial & continued employment after certification

Michigan Online Educator Certification System (MOECS)

Shortage: initial certificates issued, temporary teaching credentials, endorsement areas (& alignment w/ courses taught), prep institution

Pipeline: credential type/status

Michigan Test for Teacher Certification (MTTC)

Pipeline: licensure test participation, & results

PIC-UIC Crosswalk

Shortage: connect information about teachers' initial job placements to the locations of their hometowns & prep programs

Publicly Available Data Sources

Shortage: Title II enrollment, completion, & other program-level data

Pipeline: Subject area abbreviations and student teaching course codes from course catalogs & program handbooks

EPIC

Results:

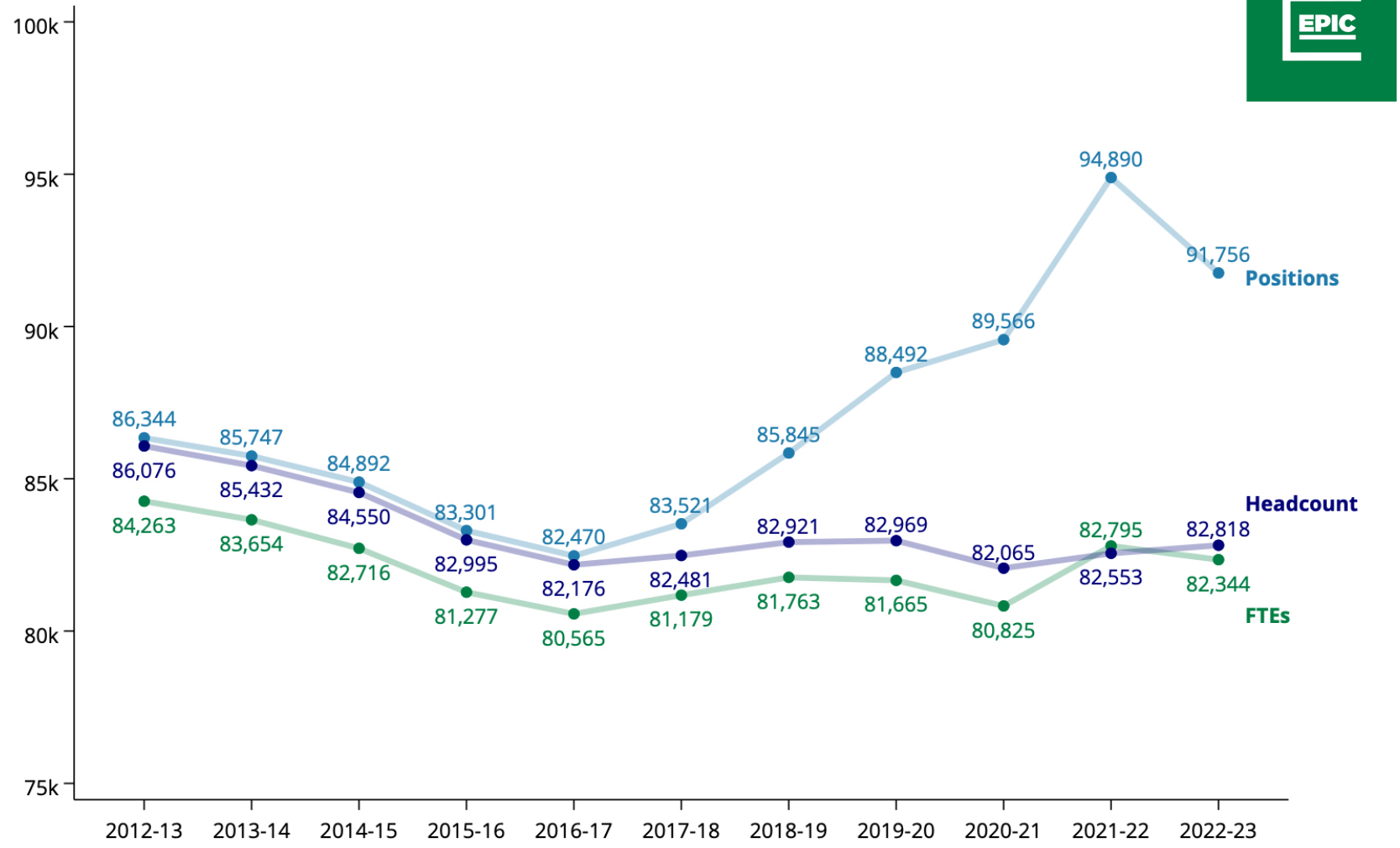
Vacancies, Retention, and High-Needs Regions

EPIC

SIZE OF THE WORKFORCE

Teacher headcounts, position counts, and FTEs each tell somewhat different stories.

Permanently Filled Teaching Positions, FTEs, and Teacher Headcounts (Fall)

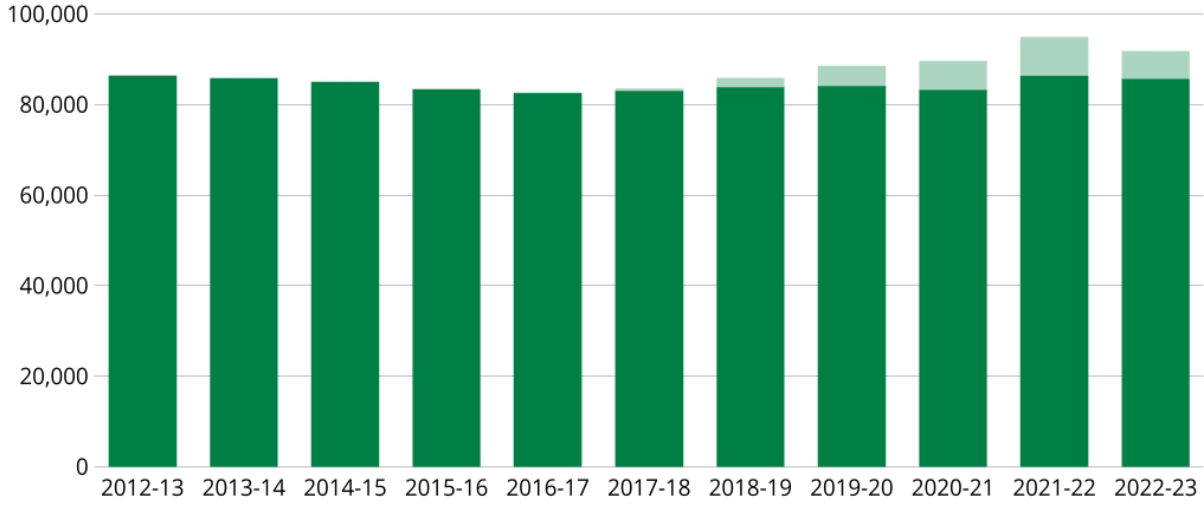


SIZE OF THE WORKFORCE

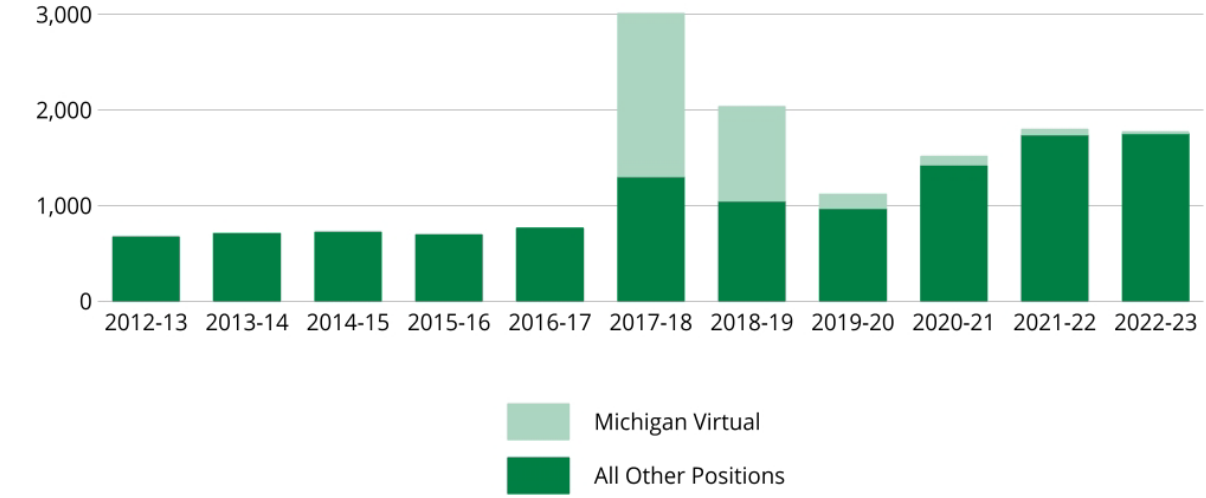
Discrepancies between teacher headcounts, position counts, and FTEs are driven by 3rd-party virtual teachers.

Increases in district-reported vacancies may partly reflect improvements in vacancy reporting and changes in practices for reporting virtual teachers.

Permanently Filled Teaching Positions



Vacant Teaching Positions *(*likely underreported)*

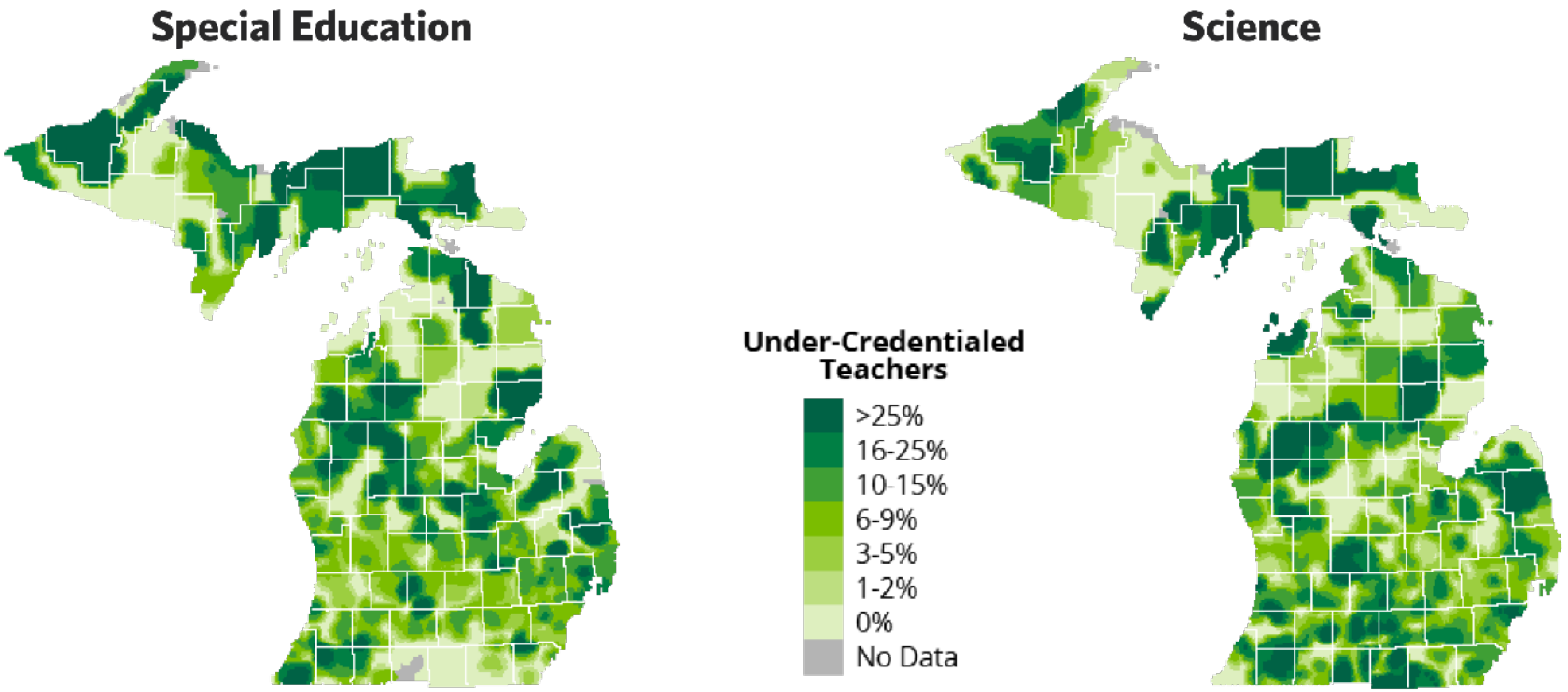


EPIC

UNDER-CREDENTIALED TEACHERS

In every region of the state, there were districts where 25% of special education or science teachers are not appropriately certified/endorsed.

Under-Credentialed Teachers by Geographic Location and Subject Area, 2022-23

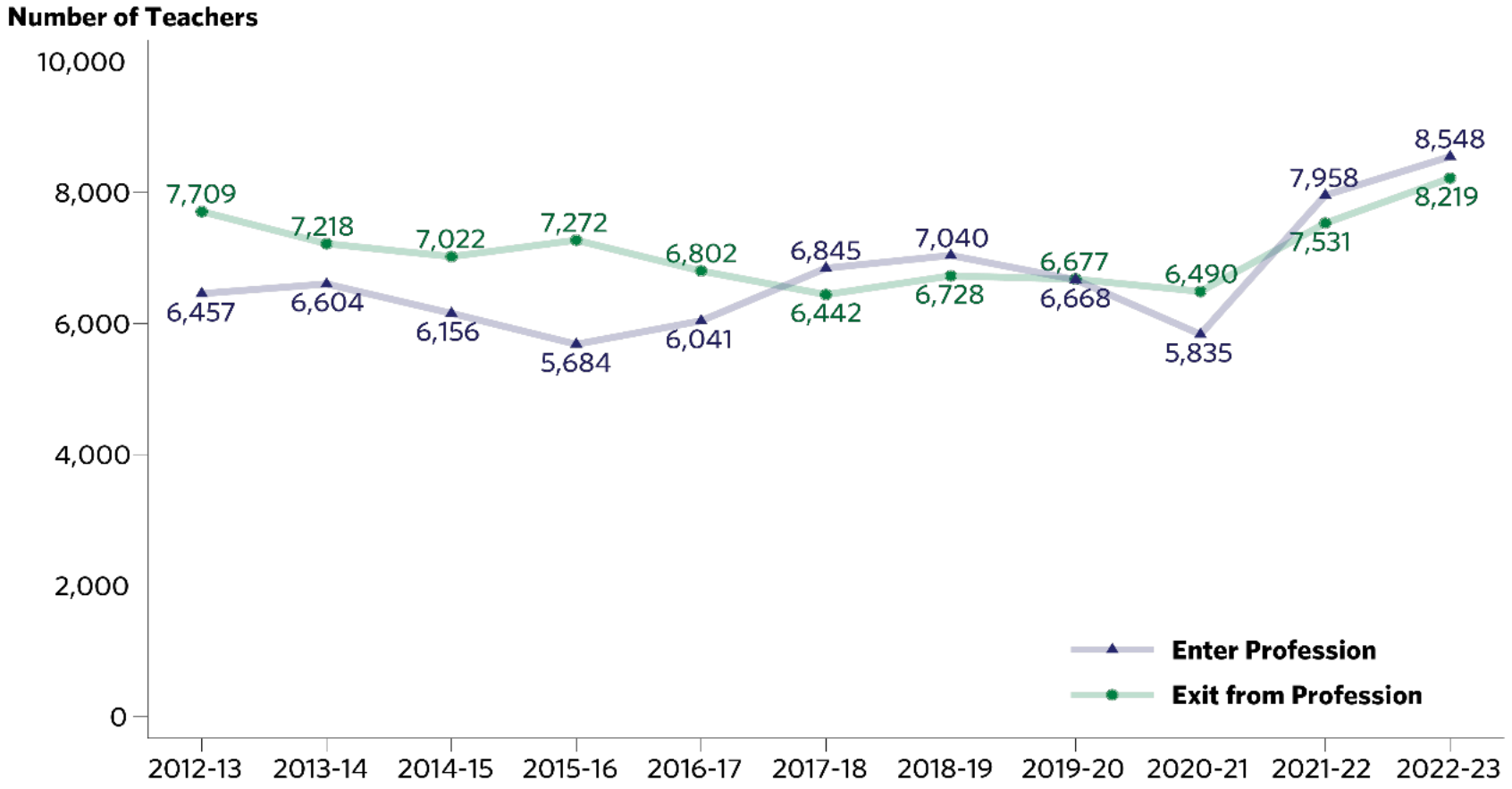


EPIC

MOBILITY AND ATTRITION

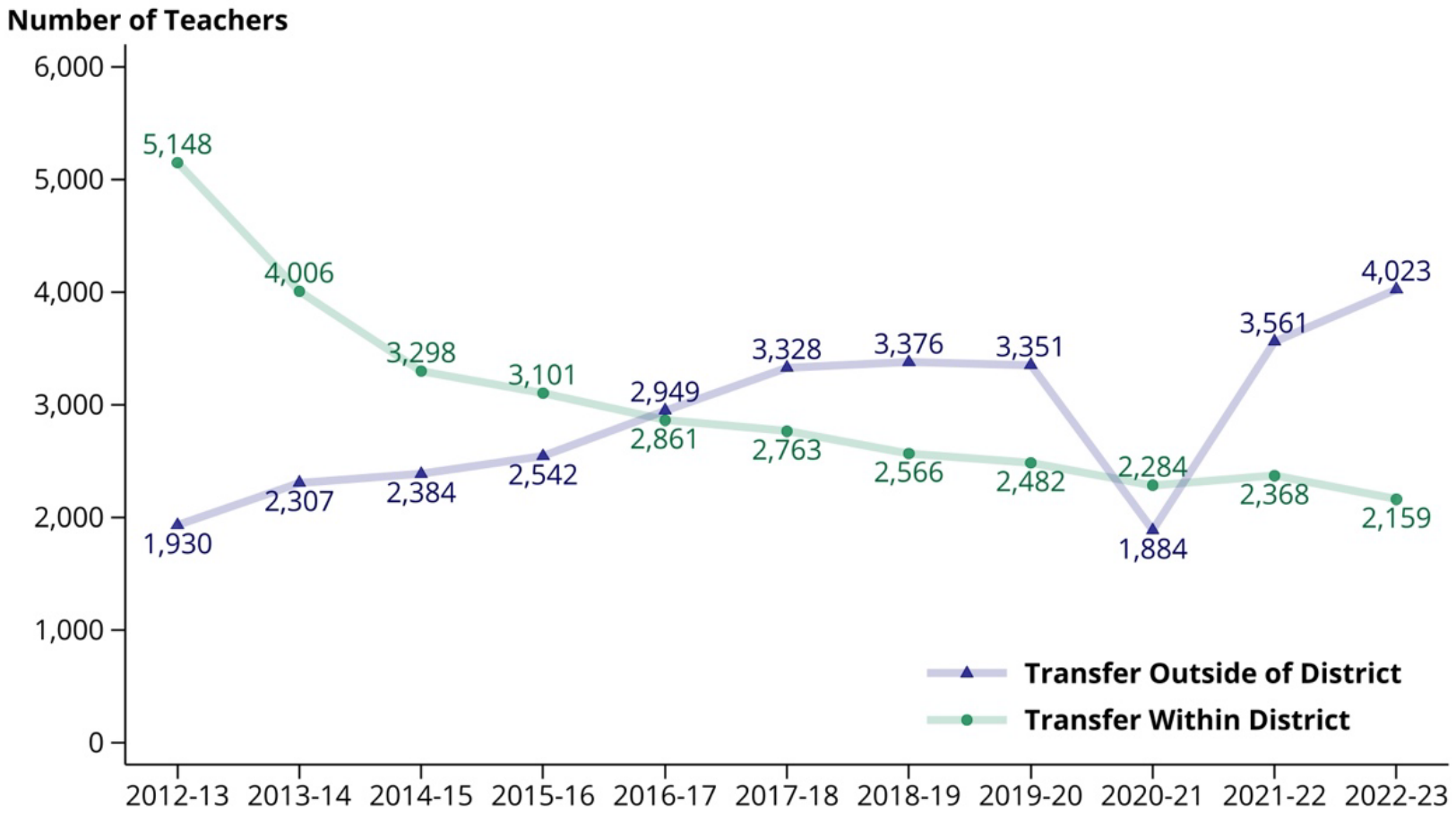
Teacher exit rates have been increasing, but there are also more new teachers becoming certified and entering the workforce.

Entry Into and Exits From the Teaching Profession (Fall-to-Fall)



MOBILITY AND ATTRITION

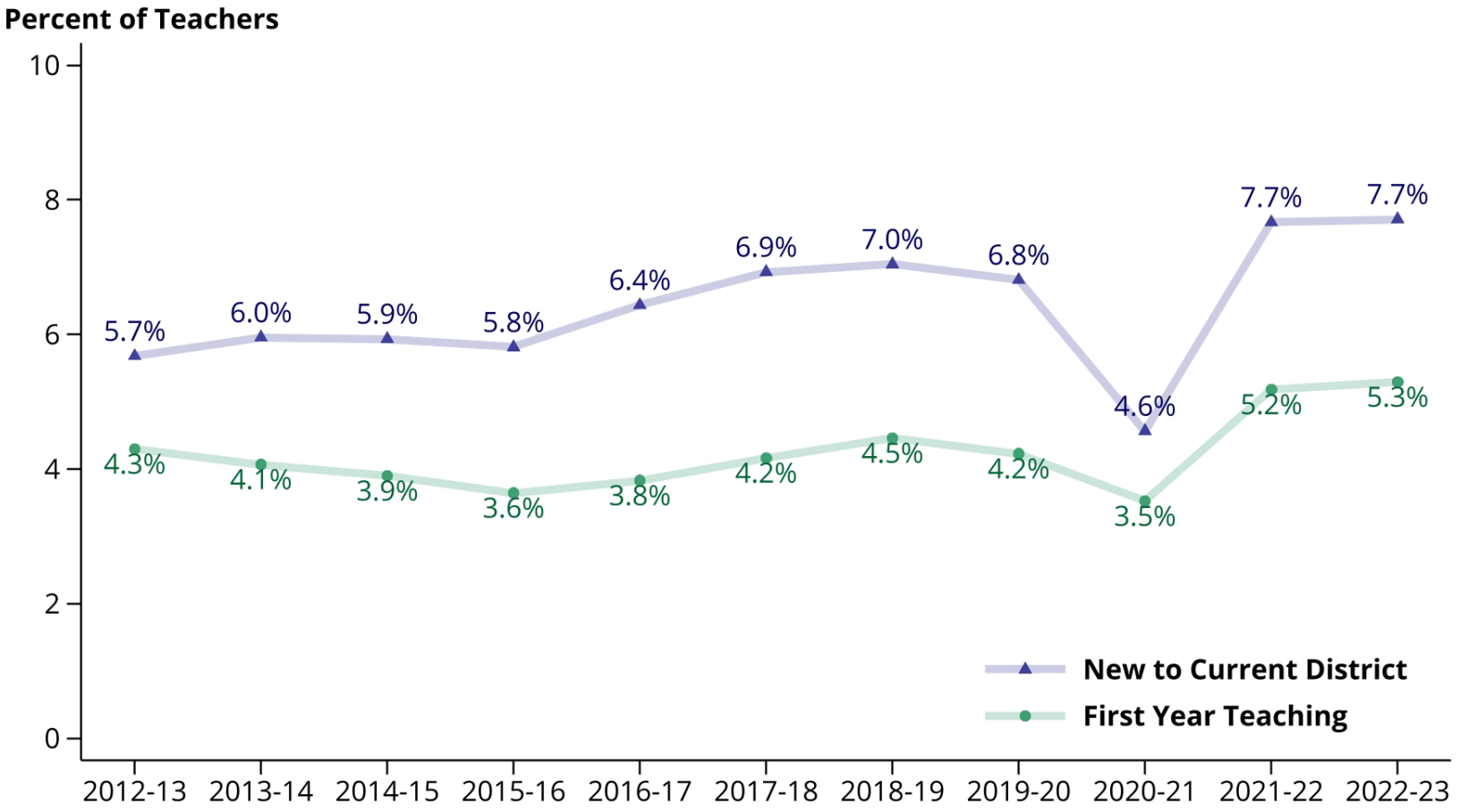
The number of teachers each year who leave their districts to teach elsewhere has continued to rise.



EPIC

MOBILITY AND ATTRITION

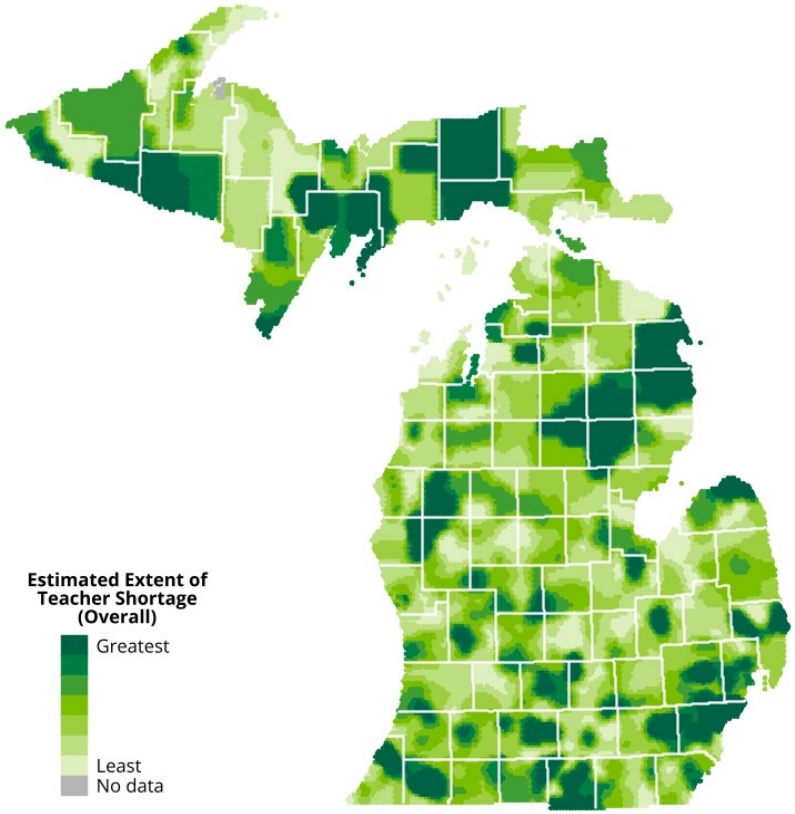
With more teachers both entering and exiting the profession, new teachers make up a larger share of the workforce than ever before.

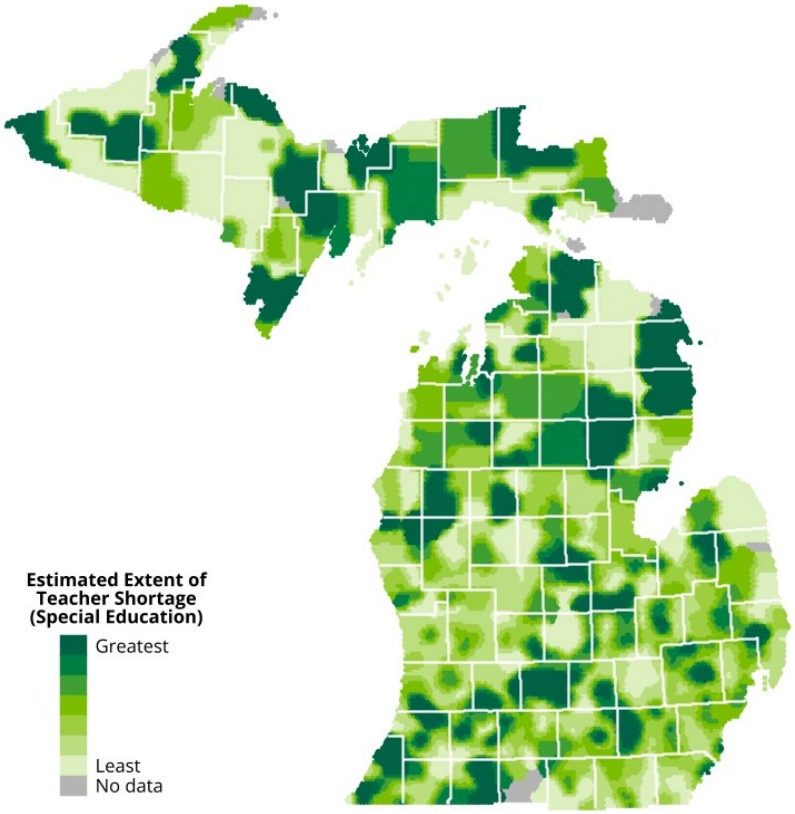


EPIC

LOCAL SHORTAGES

Teachers are not distributed equitably across school districts, especially in areas where there is more competition between districts to hire from the same limited pool of teachers.





EPIC

LOCAL SHORTAGES

Districts in urban areas are disproportionately likely to face severe overall and elementary teacher shortages.

Districts in rural areas are disproportionately likely to face severe subject-specific shortages.

Distribution of High-Shortage Districts by Locale Type										
	All Districts	Districts With the Most Severe Teacher Shortages (Top 20%)								
		Overall	Elementary	Special Education	ELA	Math	Science	Social Studies	World Language	The Arts
Urban	6%	20%	14%	5%	9%	7%	7%	8%	3%	4%
Suburban	28%	29%	26%	14%	16%	17%	11%	15%	14%	11%
Town	17%	12%	8%	14%	11%	13%	6%	10%	10%	12%
Rural	50%	39%	51%	67%	64%	63%	75%	68%	73%	73%

Districts in both urban and rural areas often relied on under-credentialed teachers to meet their staffing needs, but urban districts relied more on teachers who **weren't certified** while rural districts relied more on **certified teachers assigned out-of-field.**

EPIC

LOCAL SHORTAGES

Teacher shortages tend to be the most severe in districts with large charter sectors and diverse student populations.

Average Student Composition in High-Shortage Districts									
	All Districts	Districts With the Most Severe Teacher Shortages (Top 20%)							
		Overall	Elementary	Special Education	ELA	Math	Science	Social Studies	World Language	The Arts
Economically Disadvantaged	55%	71%	70%	58%	61%	60%	60%	58%	60%	61%
Students of Color	24%	43%	39%	25%	27%	30%	26%	27%	23%	24%
Enrolled in Charter Schools	5%	19%	17%	10%	9%	9%	9%	9%	6%	7%

This is especially true for **overall teacher shortages**,

i.e., students from these subgroups are more likely to experience the effects of shortages in **most or all of their classes** rather than just 1 or 2 high-shortage subject areas.

The same pattern still holds for the types of **subject-specific shortages** that tend to be more severe in rural areas,

i.e., it's **not** just because urban districts tend to serve more students from these subgroups.

EPIC

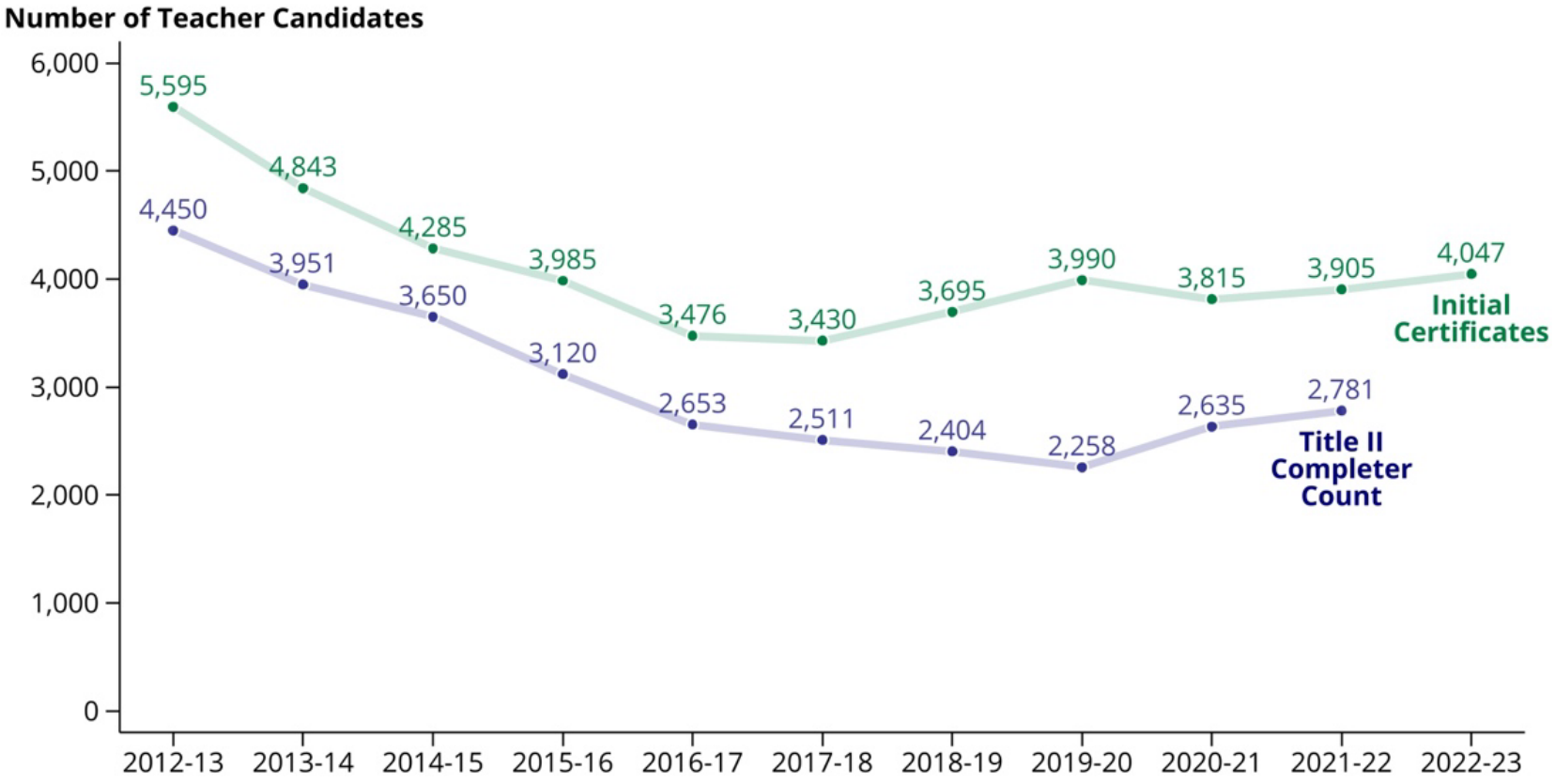
Results:

Teacher Preparation, Licensure, and Initial Employment

EPIC

NEWLY-CERTIFIED TEACHERS

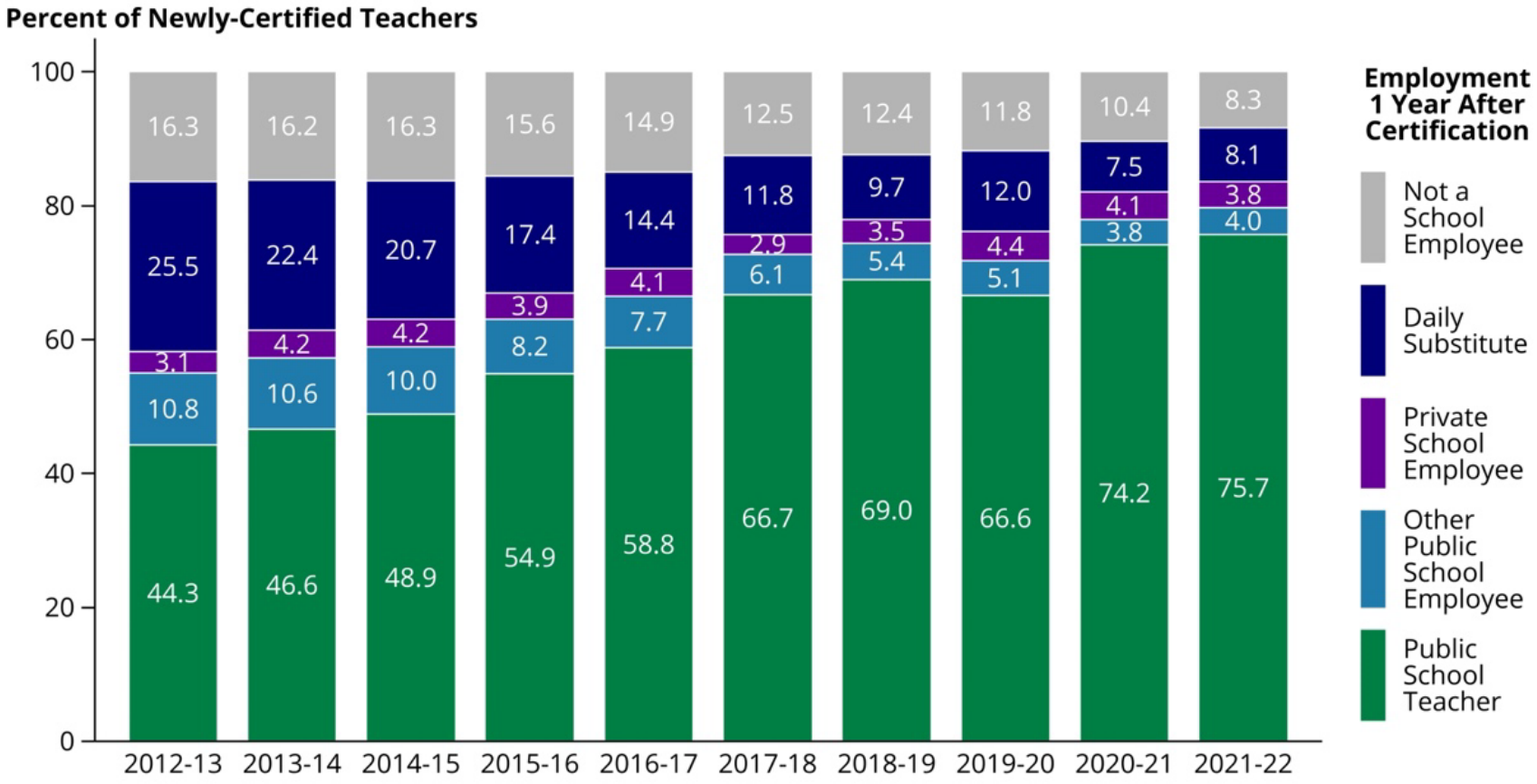
The number of candidates completing in-state teacher preparation programs and the number of educators earning an initial MI teaching credential both increased.



EPIC

NEWLY-CERTIFIED TEACHERS

Newly-certified teachers are more likely to teach in a Michigan public school the next year, compared to earlier cohorts.



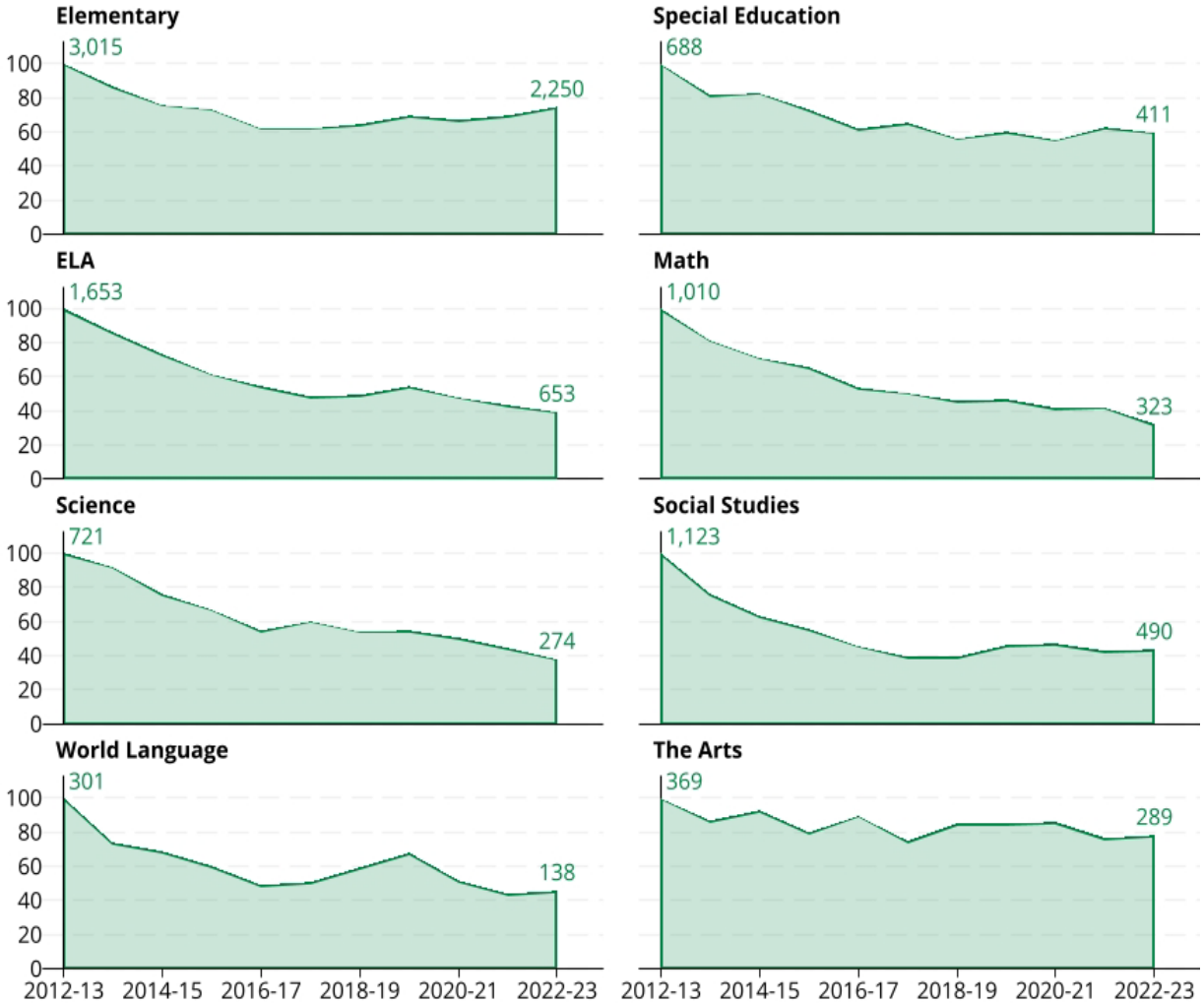
EPIC

NEWLY-CERTIFIED TEACHERS

Although overall certification rates have been increasing, we haven't seen rebounds in all subject areas.

Increases are primarily driven by elementary teachers. In many other subject areas, initial certification rates are stagnant or continuing to decrease.

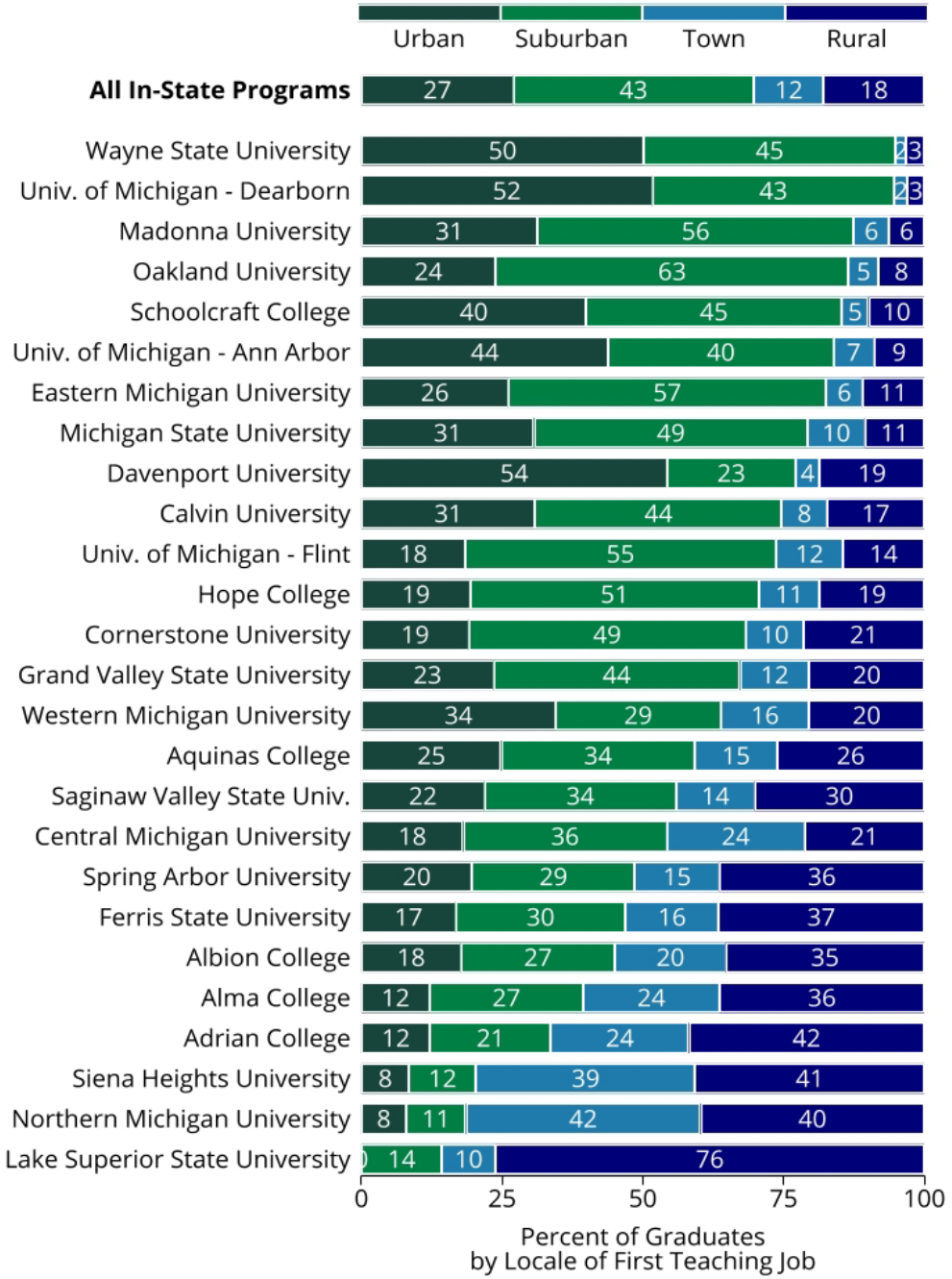
Change in the Number of Teachers Issued Initial Certificates by Subject Area (Percent Relative to 2012-13 Rate)



EPIC

NEWLY-CERTIFIED TEACHERS

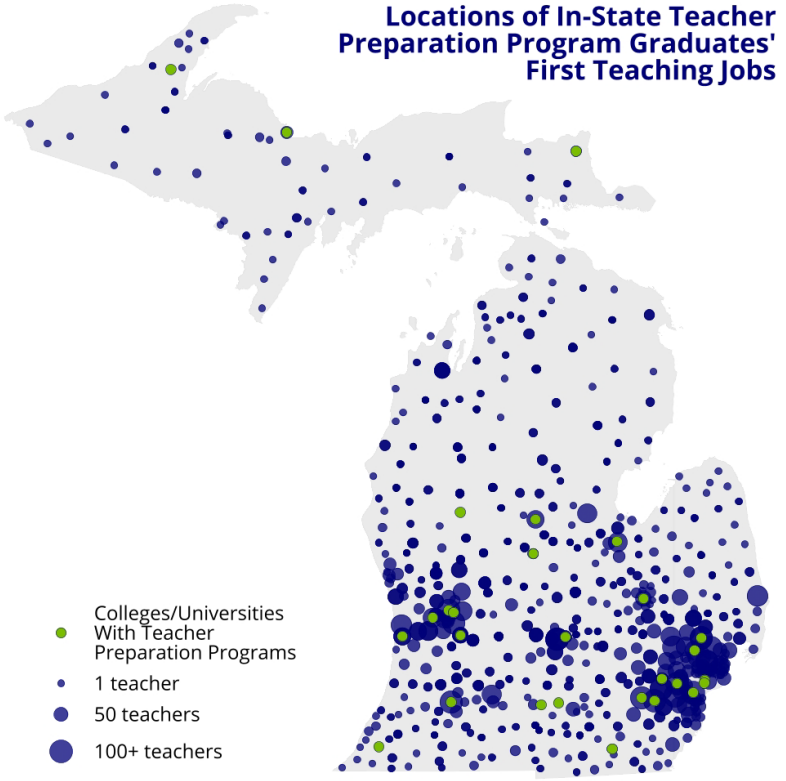
Graduates from different teacher preparation programs tend to come from and teach in different types of districts.



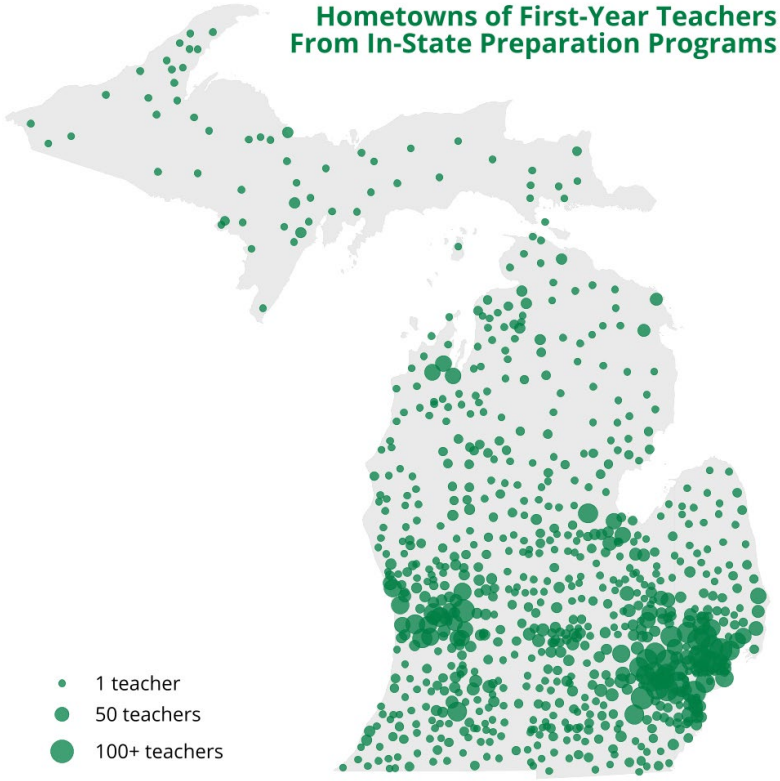
EPIC

NEWLY-CERTIFIED TEACHERS

Most in-state graduates taught in districts near their hometowns or near their teacher preparation institutions.



More than **50%** of in-state TPP graduates taught within 30 miles of their postsecondary institution.

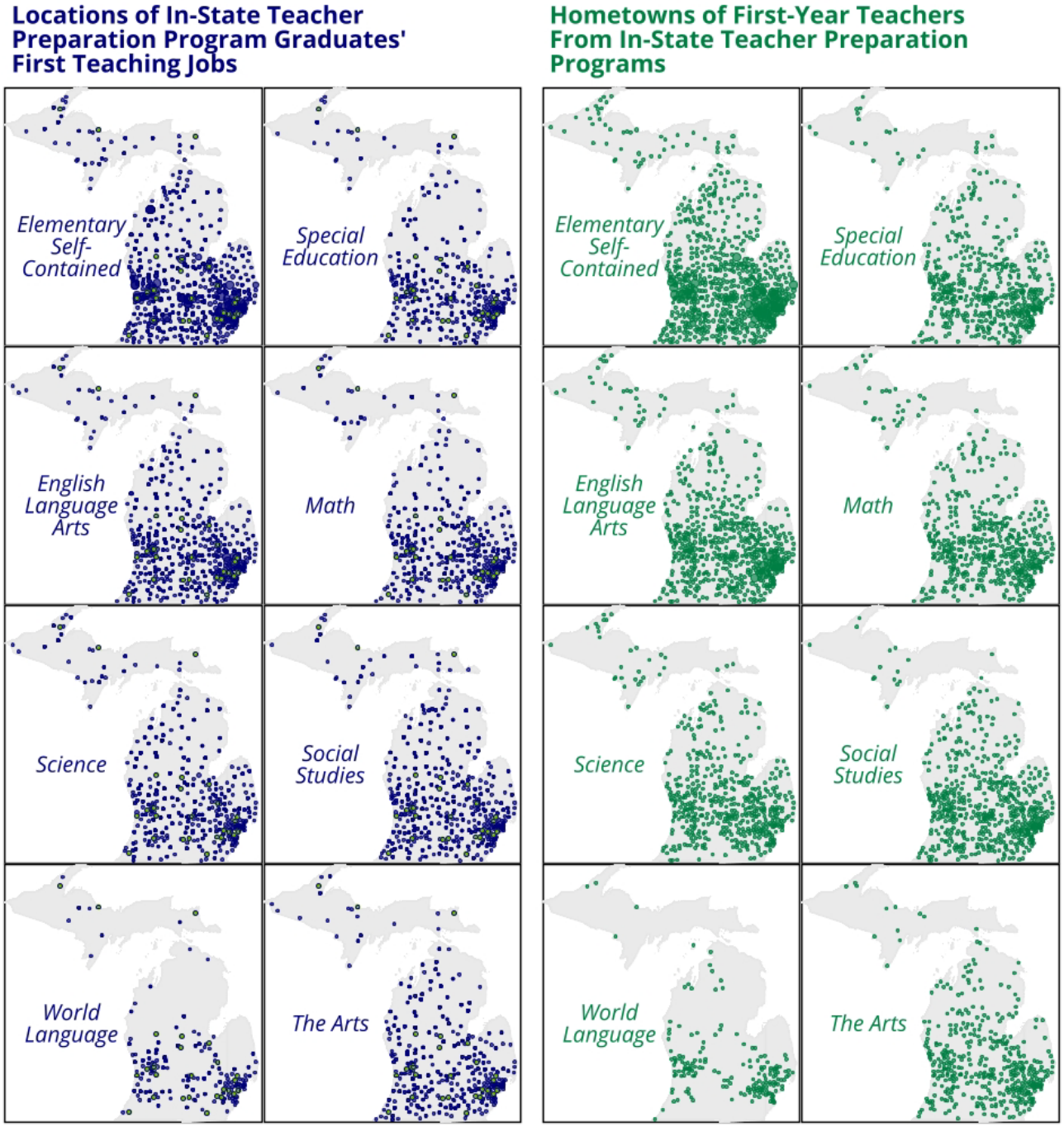


Nearly **70%** taught within 30 miles of where they went to high school.

EPIC

NEWLY-CERTIFIED TEACHERS

Some areas of the state are neither producing nor recruiting teachers with certain specializations.

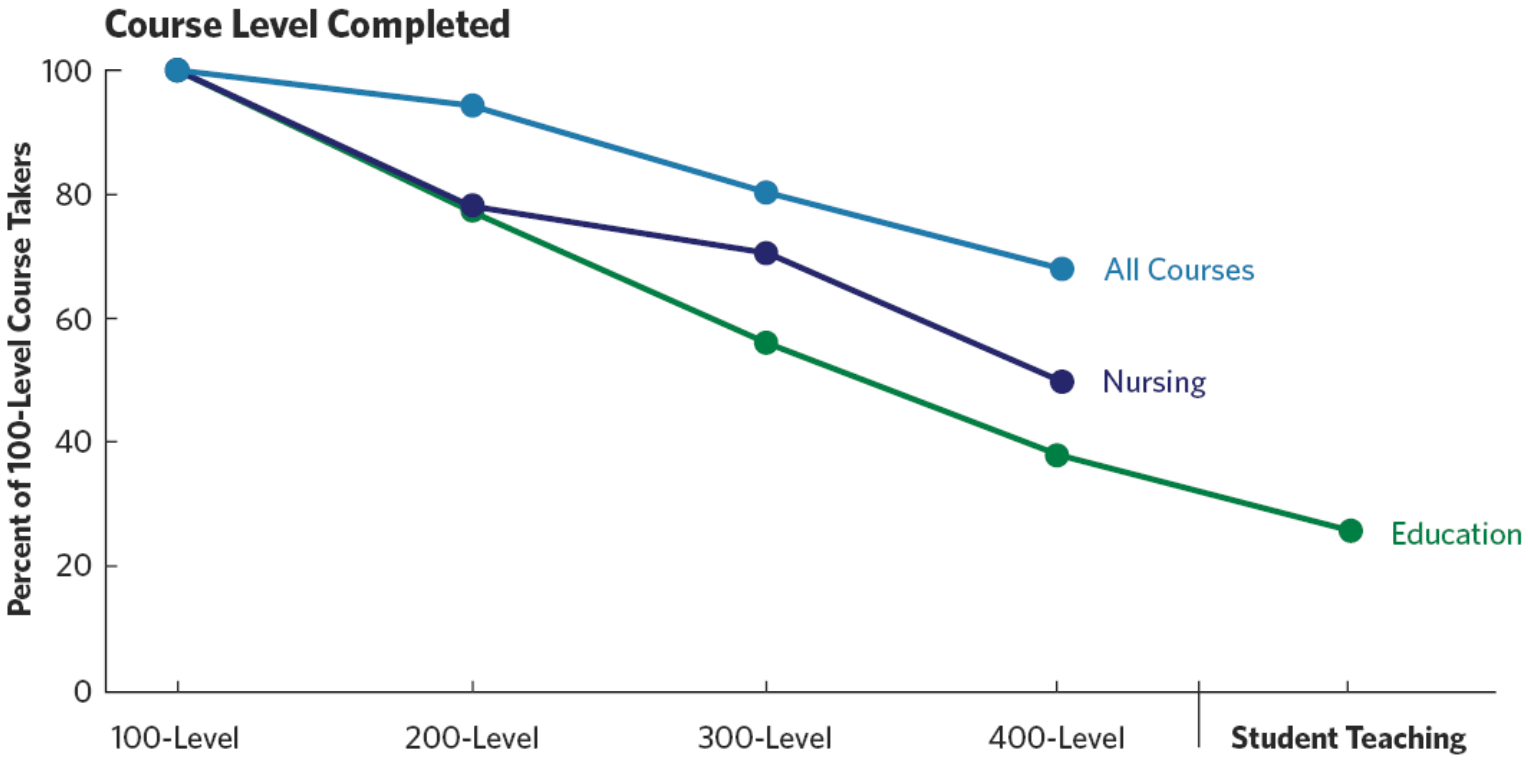


EPIC

TEACHER PREPARATION

Only one-quarter of the students who take introductory teacher education courses eventually become student teachers.

Course Progression Rated for Undergraduates by Subject Area

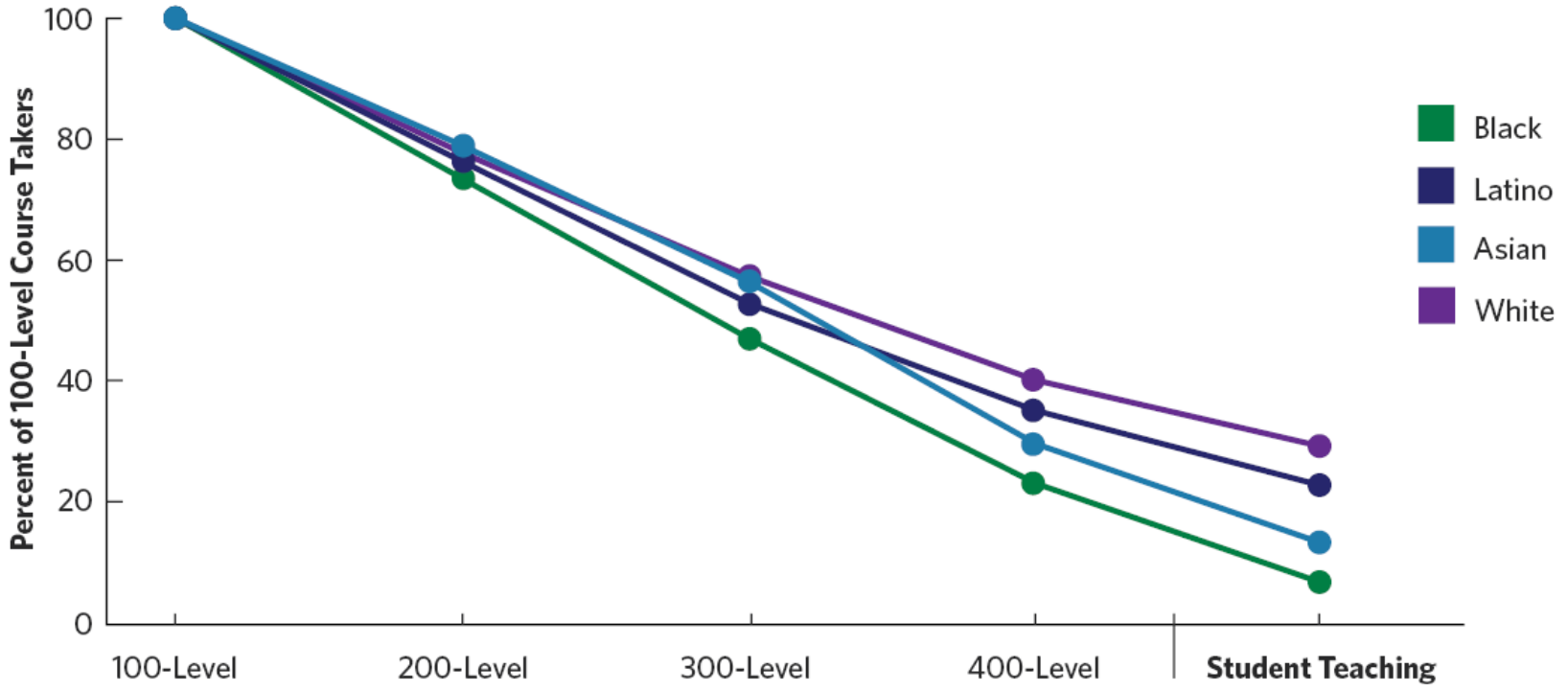


EPIC

TEACHER PREPARATION

Students of color are less likely than their White peers to continue pursuing teaching after completing an initial teacher education course.

Course Progression Rated for Undergraduates in Education Courses, by Race Ethnicity

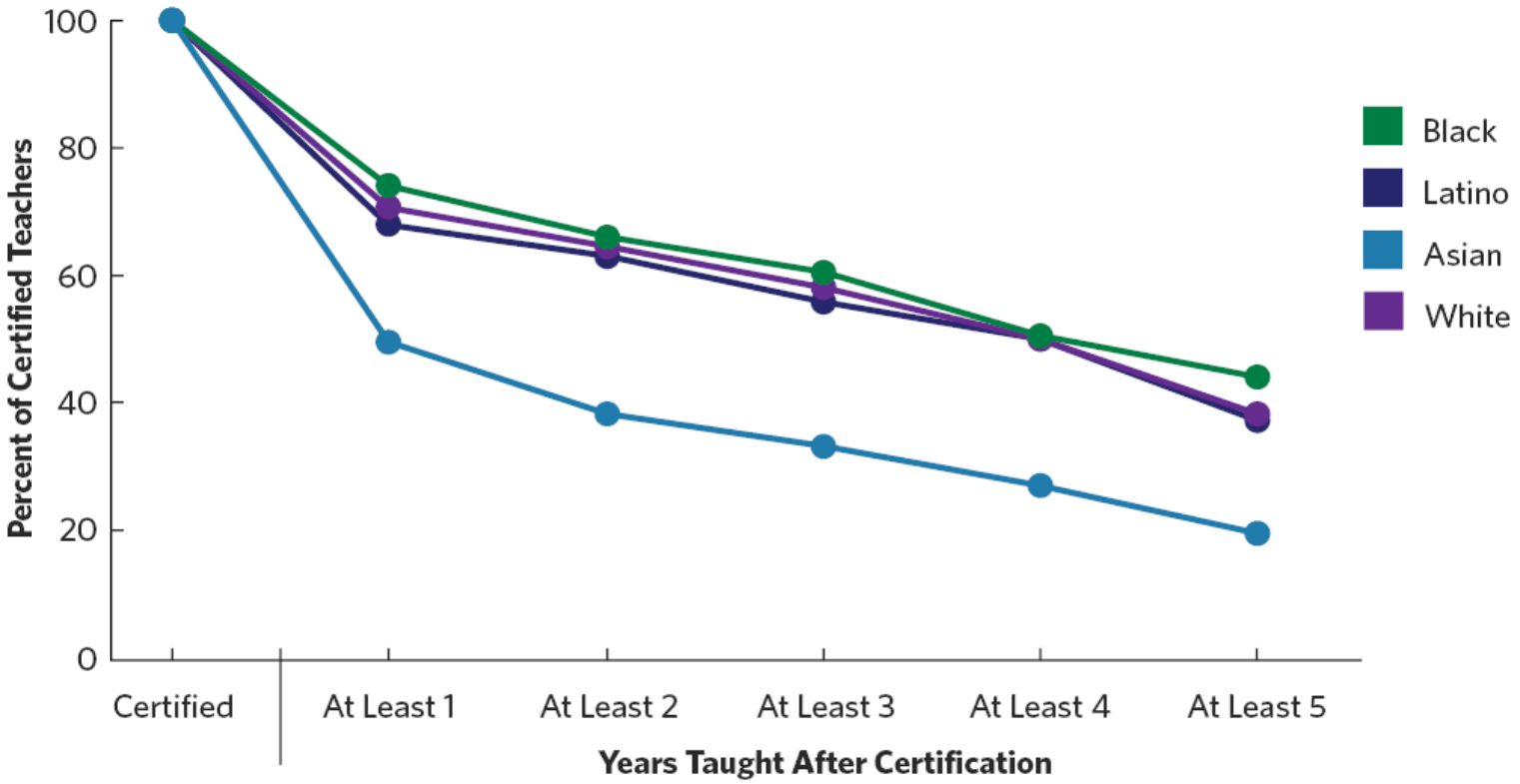


EPIC

TEACHER PREPARATION

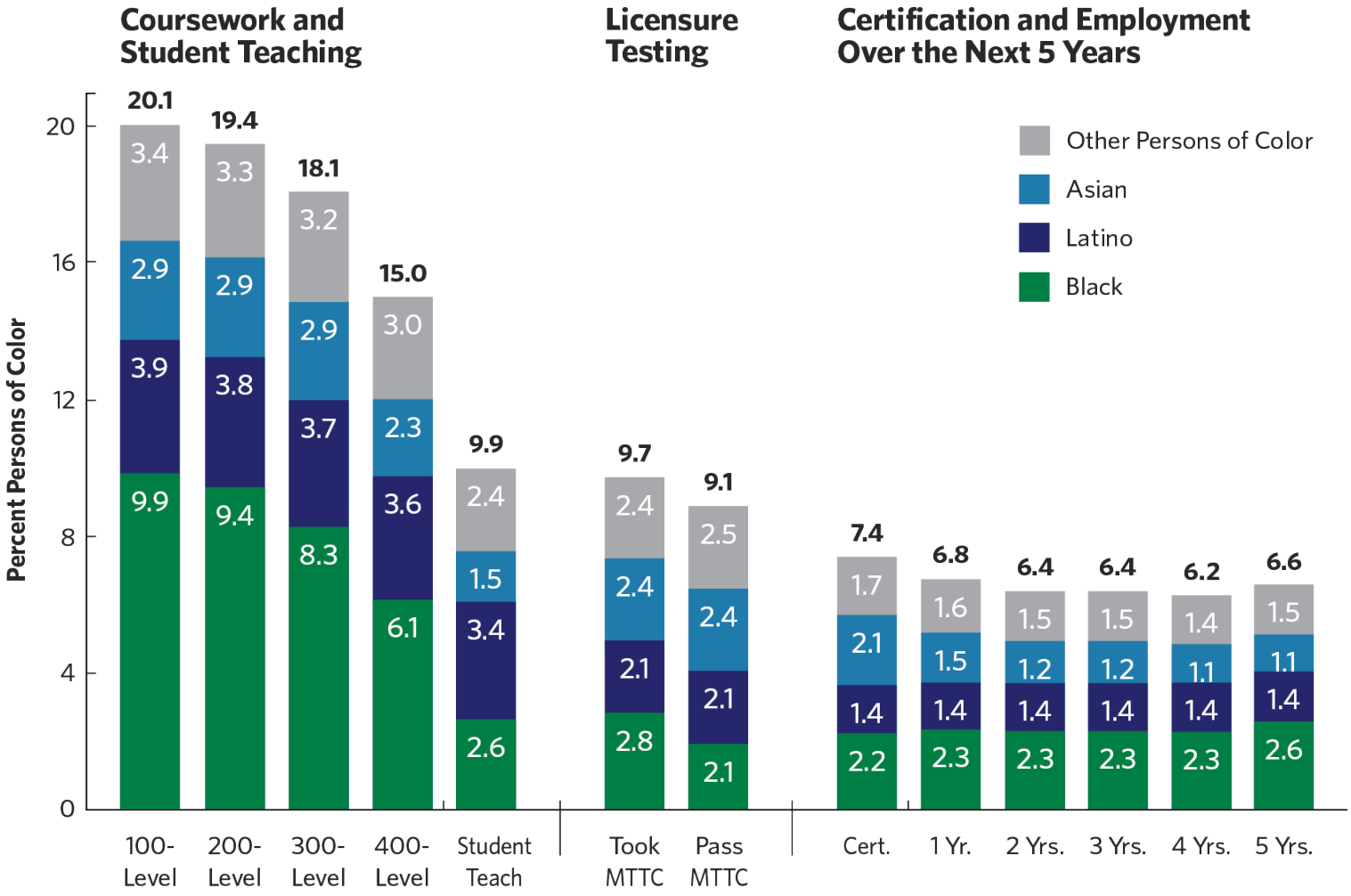
Despite facing higher attrition from teacher prep coursework and student teaching, Black candidates who become certified are more likely to teach in a MI public school and continue teaching for at least 5 years.

Percent of Candidates Who Taught in a Michigan Public School Within 5 Years of Certification, by Race/Ethnicity



IMPACT ON DIVERSITY

The pool of prospective Michigan teachers becomes less diverse as candidates progress through the teacher preparation coursework, student teaching, licensure, and early career stages of the pipeline.



KEY FINDINGS AND IMPLICATIONS

Michigan is making progress toward strengthening the supply of new teachers entering the workforce

- Following several years of declines, MI is beginning to see increases in program completion, initial certification, and entry into the workforce.
- New teachers make up a larger share of MI's workforce than ever before.

Many districts are still struggling to find the specific types of teachers they need

- Special education and science teachers remain scarce throughout the state. Rural districts face particularly acute challenges finding teachers with science or special education endorsements that match their instructional needs.
- The workforce remains less diverse than the population of students it serves.

Close neighboring school districts often face very different shortage conditions

- Competition between nearby districts for the same limited supply of teachers exacerbates shortages in disadvantaged districts.

EPIC

Education Policy Innovation Collaborative

COLLEGE OF EDUCATION | MICHIGAN STATE UNIVERSITY

236 Erickson Hall, 620 Farm Lane, East Lansing, MI 48824 | (517) 884-0377 | EPICedpolicy@msu.edu