

# What are the college outcomes for the Metropolitan Nashville Public Schools high school class of 2007 after six years?



What's Happening

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Among the cohort of high school students graduating from Metropolitan Nashville Public Schools (MNPS) in 2007, 37 percent enrolled in a public college, a rate similar to that statewide. Among the same MNPS cohort, 15 percent completed a four-year public college degree within six years and 2 percent completed a two-year public college degree within six years without enrolling in a four-year institution—lower than the rates among all students in Tennessee. MNPS students who enrolled in college the first semester after graduating from high school completed a four-year degree within six years at a slightly lower rate (36 percent) than did all comparable students statewide (38 percent). Although a higher percentage of White than of Black MNPS students completed a four-year degree within six years, the gap (6 percentage points) was smaller than the gap between all White students and all Black students statewide (8 percentage points). Further, the first-time college enrollment rate in fall 2007 was similar among White and Black MNPS students but higher among all White students than among all Black students statewide.

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## Why this study?

In recent years Tennessee policymakers have focused on improving the college outcomes of high school graduates.<sup>1</sup> For example, the Tennessee Promise scholarship established in 2014 offers two years of community or technical college free to eligible high school graduates (Tennessee Promise, 2015). Given such policy developments, it is important to document college outcomes among Tennessee high school graduates and to provide baseline information for future comparisons.

Because many policy decisions affecting college readiness occur at the school district level, Regional Educational Laboratory Appalachia partnered with Metropolitan Nashville Public Schools (MNPS) to compare the college outcomes of the district's students with those of all students in Tennessee using data from a study of the 2007 cohort of Tennessee public high school graduates (Rolfhus, House, Douglas, & Leeds, 2017). The analysis in the current report covers 2007–13.

## What the study examined

The study was guided by the following research questions, which examined the cohort of students who graduated from MNPS in 2007:

- What is the cumulative first-time public college enrollment rate, by semester from fall 2007 through spring 2013, for the MNPS cohort; how do the rates differ from those for all students statewide; and how do the gaps between White and Black MNPS students differ from the gaps between White and Black students statewide?
- What are the MNPS cohort's most recent public college enrollment and completion rates two, four, and six years after high school graduation; how do the rates differ from those for all students statewide; and how do the gaps between White and Black MNPS students differ from the gaps between White and Black students statewide?
- How many credits did full-time enrollees in Tennessee public colleges accumulate in their first year of college, what was their grade point average, how do the results differ from those for all students statewide, and how do the gaps between White and Black MNPS students differ from the gaps between White and Black students statewide?

See box 1 for key terms used in the report.

MNPS students differ from all public high school students statewide in two observable ways. First, as an urban school district, MNPS by definition has zero students in rural high schools (table 1). Second, MNPS

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### Box 1. Key terms

**2007 Metropolitan Nashville Public Schools (MNPS) graduate.** Any MNPS student who received a public high school diploma or passed a General Educational Development test between January 1, 2007, and August 31, 2007.

**Completion.** Attaining a college degree from any accredited two-year or four-year public college in the National Student Clearinghouse database, which includes data from about 98 percent of U.S. colleges and universities.

**Enrollment.** Being registered for a college degree at any accredited two-year or four-year public college in the National Student Clearinghouse database. A variable indicating full-time or part-time status for each semester was provided by the Tennessee Higher Education Commission.

**Performance.** Students' mean credits earned and grade point average.

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has a much larger share of racial/ethnic minority students—particularly Black students—and a much smaller share of White students than do high schools statewide.

Different student samples were used for each of the three main research questions to accommodate differences in data availability and to enable straightforward comparisons of similar groups of students. The first two research questions used the entire cohort of 3,791 students who graduated from MNPS in 2007. The third research question used the 834 MNPS students who enrolled in a Tennessee public college in fall 2007, persisted full time through spring 2008, had data available on credits earned and grade point average, and were not enrolled in both a two-year and a four-year college during that time. Box 2 summarizes the data and methods, and the appendix provides further details.

**Table 1. Comparison of the characteristics of the Metropolitan Nashville Public Schools high school class of 2007 and the Tennessee public high school class of 2007**

Student subgroup	Metropolitan Nashville Public Schools		Tennessee	
	Number	Percent	Number	Percent
All students	3,791	100.0	61,230	100.0
<b>Gender</b>				
Male	1,804	47.6	30,129	49.2
Female	1,987	52.4	31,101	50.8
<b>Race/ethnicity</b>				
Asian or Pacific Islander	150	4.0	923	1.5
Black	1,949	51.4	13,930	22.8
Hispanic	191	5.0	1,251	2.0
White	1,490	39.3	44,960	73.4
Other	11	0.3	166	0.3
<b>High school's urbanicity<sup>a</sup></b>				
Urban	3,791	100.0	40,012	65.3
Rural	0	0.0	21,218	34.7

a. Based on National Center for Education Statistics locale codes (U.S. Department of Education, n.d.). Urban denotes schools whose locale is coded as “city” or “suburb;” rural denotes schools whose location is coded as “town” or “rural.”

**Source:** Authors' analysis based on 2007 data from the Tennessee Department of Education.

## Box 2. Data and methods

### Data

Data for the study came from three sources:

- Tennessee Department of Education: demographic and high school graduation data used to define the 2007 graduation cohort and their baseline characteristics. Data were obtained on 61,230 students statewide, 3,791 of whom graduated from Metropolitan Nashville Public Schools.
- Tennessee Higher Education Commission: data on enrollment, completion, and credits earned and grade point average (measured on a four-point scale) during the first year at Tennessee public colleges for fall 2007 through spring 2013. First-year credits earned included college credit that students earned in high school through dual credit, Advanced Placement, or International Baccalaureate programs.
- National Student Clearinghouse: data on enrollment and completion for out-of-state public colleges for fall 2007 through spring 2013. Data could not be obtained on credits earned or grade point average at out-of-state colleges.

(continued)

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## Box 2. Data and methods *(continued)*

There were too few Asian or Pacific Islander and Hispanic students in the MNPS data to present findings for these two subgroups.

### Methods

The study team placed students into one of five subgroups based on their highest level of education two, four, and six years after high school graduation, an approach that reflects the pipeline of students progressing to completion of a four-year college degree:

1. *Never enrolled at any college.* The student did not enroll in a public two-year or four-year college within this time period.
2. *Enrolled in two-year college.* The student was enrolled in a public two-year college within this time period but did not complete a degree or enroll in a public four-year college.
3. *Two-year degree.* The student completed a degree at a public two-year college within this time period but did not enroll in a public four-year college.
4. *Enrolled in four-year college.* The student was enrolled in a public four-year college within this time period but did not complete a four-year degree; the student may or may not have attended a public two-year college or earned a two-year degree during this period as well.
5. *Four-year degree.* The student earned a degree from a public four-year college within this time period and may or may not have attended a public two-year college, earned a two-year degree, or progressed to a post-bachelor's degree during this period.

Student outcomes were tallied by semester. Enrollment in the summer was grouped with the following fall semester, and completion of a college degree in the summer was grouped with the previous spring semester. Students with no available data in a given semester were assumed not to have enrolled or progressed toward degree completion during that semester.

Students who completed a four-year degree may also have completed a two-year degree, which would be obscured because the study focused on the highest level of education that students attained.

See the appendix and Rolfhus et al. (2017) for additional information on the study's data and methodology.

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## What the study found

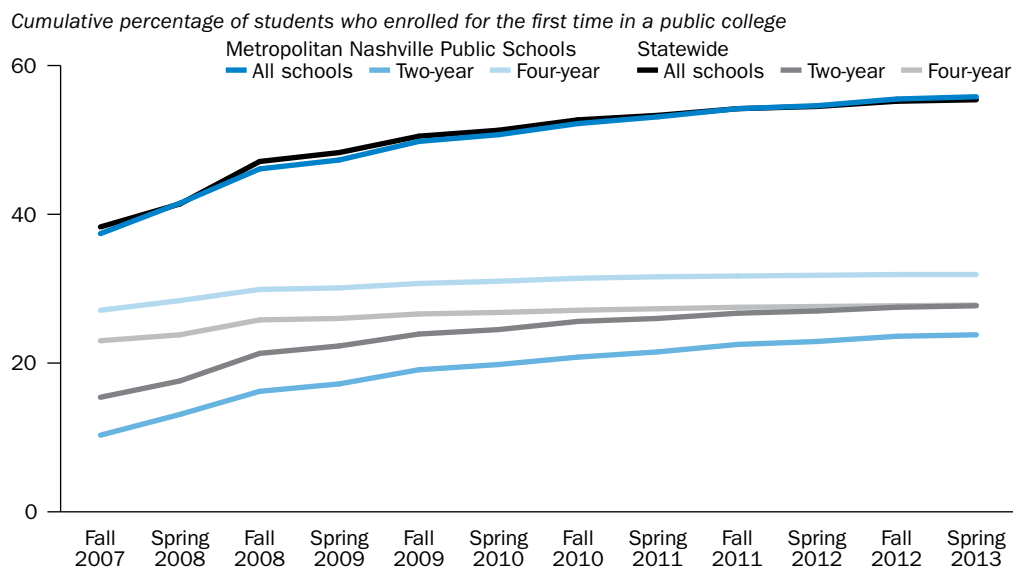
This section reports on college enrollment, persistence and completion, and first-year college performance among all MNPS students who graduated in 2007, overall and by subgroup, and compares the results for MNPS students with those for all students statewide.

**The first-time college enrollment rate among Metropolitan Nashville Public Schools students was similar to the rate among all students statewide in nearly every semester, but MNPS students were more likely than students statewide to enroll in four-year colleges**

In fall 2007 the combined two- and four-year college enrollment rate among MNPS students was 37 percent, only slightly lower than the 38 percent among all students statewide (figure 1). The enrollment rate among MNPS students tracks the rate among all students statewide closely through spring 2013.

The proportion of students who enrolled in two-year and four-year colleges differed between MNPS students and all students statewide. The percentage of students who enrolled in a two-year institution was smaller among MNPS students (10 percent) than among all students statewide (15 percent), while the percentage of students who enrolled in a four-year college was higher among MNPS students (27 percent) than among all students statewide (23 percent). This pattern was the same over all six years studied.

**Figure 1. In every semester from fall 2007 through spring 2013 the first-time college enrollment rate was similar among Metropolitan Nashville Public Schools students who graduated in 2007 and among all students who graduated from a Tennessee public high school in 2007**



**Note:** Enrollment in the summer was grouped with the following fall semester. Data include in-state and out-of-state enrollments. Students who start at one college type and transfer to another are counted only at the first college type at which they enrolled.

**Source:** Authors' analysis based on 2007–13 data from the Tennessee Higher Education Commission.

**The college enrollment gap between White and Black students was smaller among Metropolitan Nashville Public Schools students than among all high school students statewide**

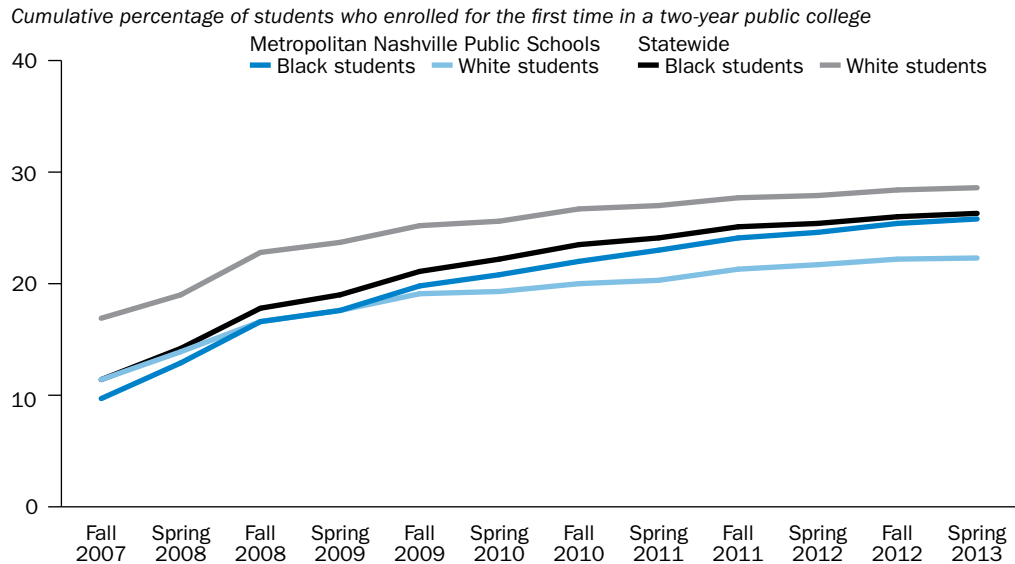
Among MNPS students the first-time two-year college enrollment rate in fall 2007 was 1.7 percentage points higher among White students than among Black students, and the first-time four-year college enrollment rate was 0.3 percentage point higher (figures 2 and 3). Both gaps were smaller than those among all students statewide (6 percentage points for the two-year college enrollment rate and 3 percentage points for the four-year college enrollment rate).

Trends in the gaps also differed between MNPS students and all students statewide. Among MNPS students both gaps reversed after six years. In spring 2013 the first-time two-year college enrollment rate was 2 percentage points higher among Black students than among White students, and the four-year college enrollment rate was 1 percentage point higher. Among all students statewide the gap in the two-year college enrollment rate shrank by nearly three-fifths, but the gap in the four-year college enrollment rate barely shrank.

**College completion rates were lower among all Metropolitan Nashville Public Schools students who graduated in 2007 than among all students statewide who graduated in 2007**

After four years 1 percent of all MNPS high school students who graduated in 2007 had completed a two-year degree (without having taken courses at a four-year institution), and 4 percent had completed a four-year degree (figure 4). In contrast, more than 3 percent of all students statewide who graduated high school in 2007 had completed a two-year degree, and 5 percent had completed a four-year degree. After six years, 2 percent of MNPS students who graduated high school in 2007 had completed a two-year degree, and

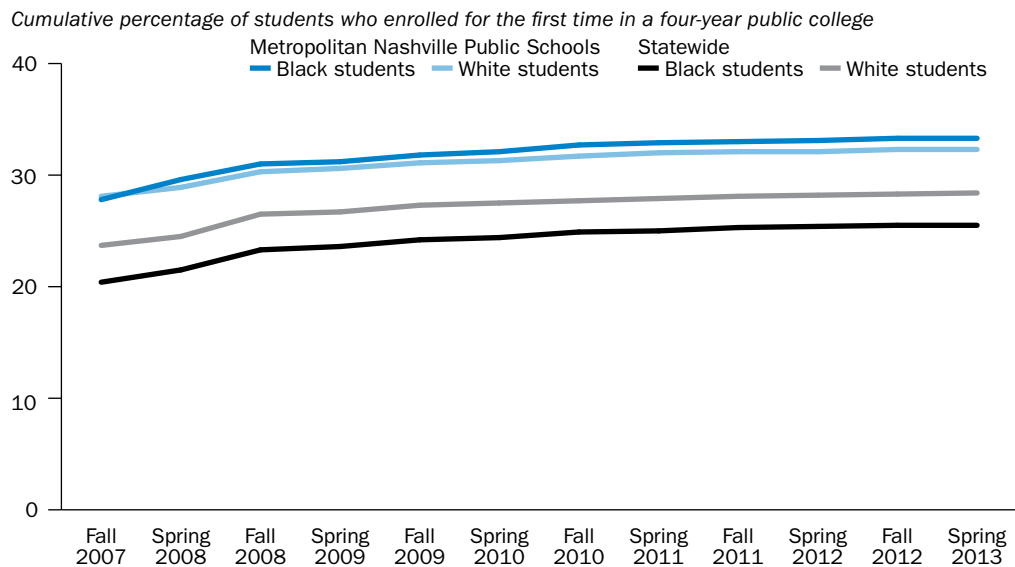
**Figure 2. The gap between White and Black students in the first-time two-year college enrollment rate was smaller among Metropolitan Nashville Public Schools students who graduated in 2007 than among all Tennessee public high school students who graduated in 2007**



**Note:** Enrollment in the summer was grouped with the following fall semester. Data include in-state and out-of-state enrollments. Students who start at one college type and transfer to another are counted only at the first college type at which they enrolled.

**Source:** Authors' analysis based on 2007–13 data from the Tennessee Higher Education Commission.

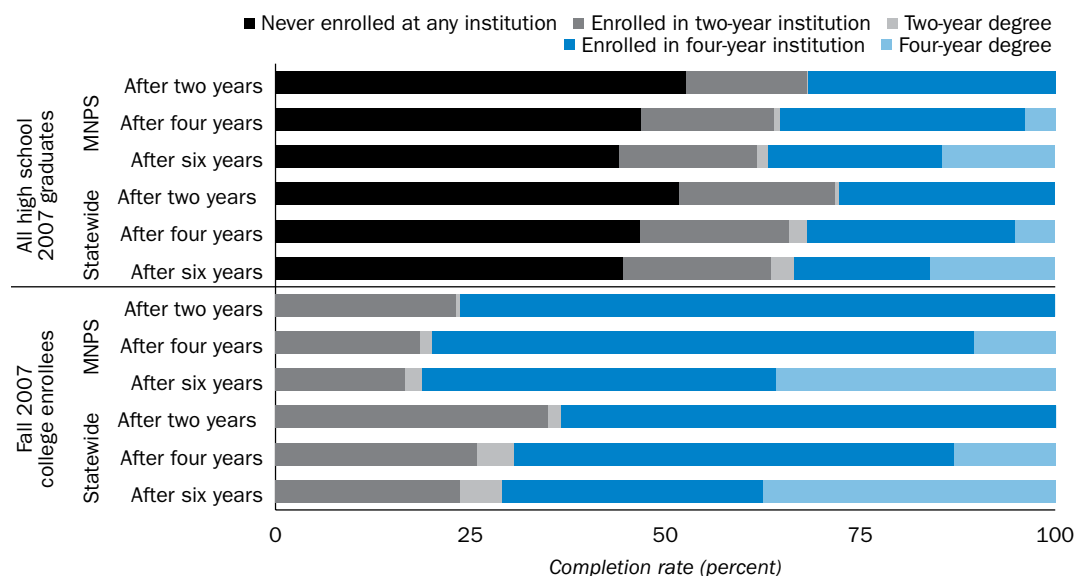
**Figure 3. The gap between White and Black students in the first-time four-year college enrollment rate was smaller among Metropolitan Nashville Public Schools students who graduated in 2007 than among all Tennessee public high school students who graduated in 2007**



**Note:** Enrollment in the summer was grouped with the following fall semester. Data include in-state and out-of-state enrollments. Students who start at one college type and transfer to another are counted only at the first college type at which they enrolled.

**Source:** Authors' analysis based on 2007–13 data from the Tennessee Higher Education Commission.

**Figure 4. Two, four, and six years after high school graduation, completion rates for both two- and four-year degrees were higher among Metropolitan Nashville Public Schools students who enrolled in college in fall 2007 than among all Metropolitan Nashville Public Schools students who graduated in 2007**



MNPS is Metropolitan Nashville Public Schools.

**Note:** Two-year outcomes end in spring 2009, four-year outcomes end in spring 2011, and six-year outcomes end in spring 2013; summer 2013 data were not included. By definition, enrollees cannot be in the never enrolled at any institution subgroup.

**Source:** Authors' analysis based on 2007–13 data from the Tennessee Higher Education Commission.

15 percent had completed a four-year degree. In contrast, 3 percent of all high school students statewide who graduated in 2007 had completed a two-year degree, and 16 percent had completed a four-year degree.<sup>2</sup>

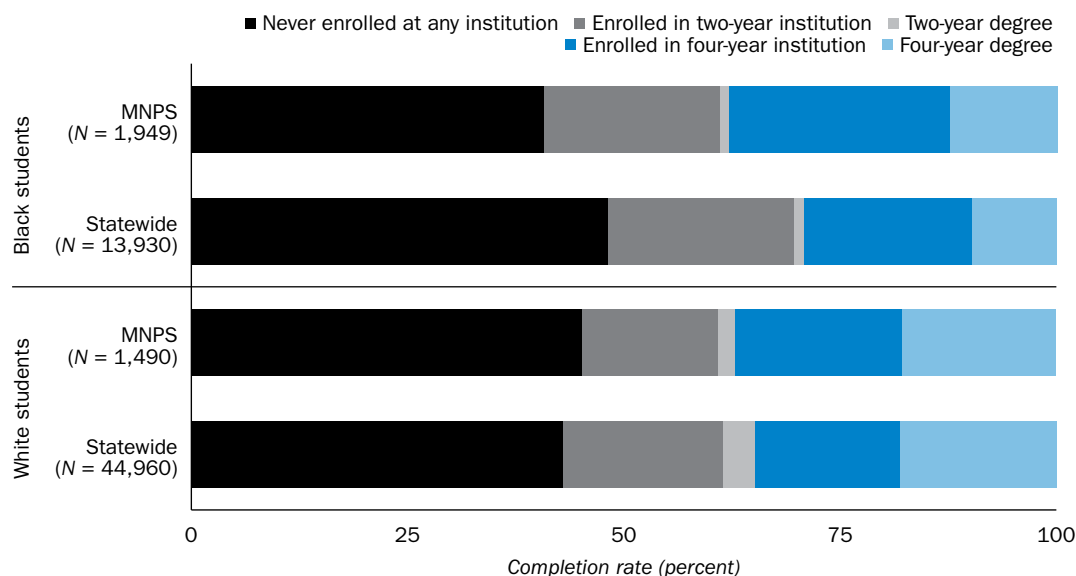
Two, four, and six years after high school graduation, completion rates for both two- and four-year degrees were higher among students who enrolled in college in the first semester after high school graduation (fall 2007) than among all students, both within MNPS and statewide. This is to be expected, because the subgroup of students who enrolled in college in fall 2007 excludes students who never attended college or who enrolled too late to earn a degree within six years of high school graduation. After six years the completion rate for a four-year degree was lower among MNPS students who enrolled in college in fall 2007 (36 percent) than among all students statewide who enrolled in college in fall 2007 (38 percent).

**The completion rate for a four-year degree was higher among White students than among Black students, but the gap was smaller among Metropolitan Nashville Public Schools students than among all students statewide**

The gap between White and Black students in the completion rate for a four-year college degree within six years of high school graduation was smaller among MNPS students (6 percentage points) than among all students statewide (8 percentage points; figure 5). The completion rate for a four-year degree was the same among White MNPS students and all White students statewide (18 percent), but the rate was higher among Black MNPS students (12 percent) than among all Black students statewide (10 percent).

The gap between White and Black students in the completion rate for a two-year degree within six years of high school graduation was 1 percentage point among MNPS students and 3 percentage points among all students statewide.

**Figure 5. The gap between White and Black students in the completion rate for a four-year college degree within six years of high school graduation was smaller among Metropolitan Nashville Public Schools students who graduated in 2007 than among all Tennessee public school students who graduated in 2007**



MNPS is Metropolitan Nashville Public Schools.

Source: Authors' analysis based on 2007–13 data from the Tennessee Higher Education Commission.

**Metropolitan Nashville Public Schools students earned fewer credits and had a lower grade point average in their first year of college than did all students statewide, but Black Metropolitan Nashville Public Schools students earned more credits and had a higher grade point average than did all Black students statewide**

Of the 3,791 MNPS students who graduated in 2007, 834 enrolled full time in a public college in Tennessee in fall 2007 and persisted full time through spring 2008 in the same type of institution (exclusively two year or four year). These students, who account for 22 percent of MNPS high school graduates, are included in performance analyses along with results for the 14,605 high school graduates statewide who met the same conditions.

For both MNPS students and all students statewide who graduated in 2007 the mean number of credits earned in the first year of college was higher among White students than among Black students, among female students than among male students, and among students at four-year institutions than among students at two-year institutions (table 2). The gender gap was much smaller than the gaps by race/ethnicity and type of institution. The pattern was similar for mean grade point average. For both MNPS students and all students statewide the mean grade point average in the first year of college was higher among White students than among Black students, among female students than among male students, and among students at four-year institutions than among students at two-year institutions.

Although both mean number of credits earned and mean grade point average in the first year of college were lower among MNPS students than among all students statewide, the differences between students of the same race/ethnicity were much smaller. The number of credits earned was similar among Black MNPS students and all Black students statewide and among White MNPS students and all White students statewide. Black MNPS students outperformed all Black students statewide in grade point average: the mean grade point average was 0.06 point higher among Black MNPS students than among all Black students statewide. The mean grade point average was 0.14 point lower among White MNPS students than among all White students statewide—and 0.17 point lower among all MNPS students than among all students statewide.



**Table 2. Academic performance after one year of full-time college among students who graduated from a public high school in 2007 and enrolled in a public college in Tennessee in fall 2007 and spring 2008, Metropolitan Nashville Public Schools students and all students statewide, by student subgroup, 2007/08**

Student subgroup	Mean number of credits earned		Mean grade point average	
	Metropolitan Nashville Public Schools	Statewide	Metropolitan Nashville Public Schools	Statewide
All students	25.2	26.6	2.65	2.82
<b>Gender</b>				
Male	24.5	26.1	2.53	2.71
Female	25.6	26.9	2.74	2.90
<b>Institution type</b>				
Two year	21.1	24.2	2.45	2.61
Four year	25.8	27.5	2.69	2.91
<b>Race/ethnicity</b>				
Black	23.1	22.2	2.54	2.48
White	27.0	27.5	2.75	2.89

**Note:** Includes only students who enrolled full time in the same type of public college (exclusively two year or four year) in Tennessee in both fall 2007 and spring 2008 (834 students from Metropolitan Nashville Public Schools and 14,605 students statewide).

**Source:** Authors' analysis based on 2007/08 data from the Tennessee Higher Education Commission.

It is not surprising that the gap between Black students and White students is smaller in MNPS than statewide because Black MNPS students performed better than Black students statewide while White MNPS students performed worse than White students statewide. While these data suggest that MNPS does a better job than schools statewide in preparing Black students, more research is needed to explore this issue.

### Implications of the study findings

The findings reported here point to important differences among subgroups that may warrant further study. Gaps between Black and White MNPS students are smaller than those between all Black and White students statewide in enrollment and completion rates and in credits earned and grade point average. This may be because students from a single district are more likely to have certain traits in common (for example, they may be subject to more homogenous education policies and pedagogy) or for reasons specific to MNPS. Studying additional outcomes or using additional analytical techniques may reveal further differences between MNPS and all students statewide. In particular, because there were too few students of a race/ethnicity other than White or Black to include in quantitative analysis, qualitative research may be necessary to determine the performance and needs of these students.

Additional analyses may provide greater insight into how best to interpret and address the results. Some analyses may focus on different aspects of the MNPS school system—for instance, despite smaller achievement gaps between White MNPS students and Black MNPS students than between all White students statewide and all Black students statewide, many MNPS students may require additional support in overcoming obstacles to college enrollment, persistence, or degree completion. Other analyses may focus on other districts—for instance, patterns in the MNPS cohort could be compared with patterns in other large urban school districts and contrasted with smaller rural districts to determine whether geographic setting or demography correlate with any of the outcomes observed in this study or with effects of the Tennessee Promise. Finally, policymakers might consider replicating this study for additional cohorts of high school graduates to determine whether more recent cohorts are enrolling in college or completing degrees at higher rates.

## **Limitations of the study**

This study's findings exclude students who graduated from private high schools and students who attended private colleges. In addition, the National Student Clearinghouse data do not capture 100 percent of college enrollment. The results therefore likely underestimate the college enrollment of MNPS's and Tennessee's full 2007 graduating class. Similarly, academic performance measures are unavailable for students who enrolled in out-of-state colleges; these students may be systematically different from students who attend in-state institutions and may also face distinct challenges to degree completion. The study also does not examine factors such as socioeconomic status, English learner status, quality of primary and secondary education, family culture, high school grade point average, or access to financial aid, all of which have been shown to affect students' college education.

Focusing on MNPS students meant that certain student subgroups could not be rigorously analyzed. As an urban district, MNPS by definition contains no rural students. Its 2007 graduating class contained fewer than 200 Asian or Pacific Islander students or Hispanic students, preventing meaningful analysis within those two groups.

Although this study emphasizes progress toward a four-year degree, it is impossible to determine whether or when students stop their education or the rate at which their education is proceeding. For instance, a student who enrolls in a four-year college for one semester and then quits, a student who requires seven years to complete a four-year degree, and a student who enrolls in a four-year college five years after graduating from high school would all be categorized after six years as "last enrolled in a four-year college," despite their different paths.

This study provides descriptive information for a single cohort, and the findings are not intended to allow for inferences about future cohorts. Subgroup findings, both for MNPS students and for demographic subgroups, are correlational, not causal, and therefore do not imply inherent differences in the students themselves. Information on student eligibility for the federal school lunch program, for instance, might show whether poverty is more prevalent among particular groups or affects different groups in distinct ways.

## **Appendix. Data and methodology**

Data on student enrollment in Tennessee public colleges are from the Tennessee Higher Education Commission, and data on enrollment in public colleges nationwide are from the National Student Clearinghouse.

Three types of record-level data were provided: semester (fall, spring, and summer) enrollment and performance for each student (zero to many records per student), degrees granted (zero or more records per student), and student-level demographics (one record per student).

The study team purged the data of duplicate records; highly similar records (such as records showing two different high school diploma types for a student) were resolved in collaboration with Tennessee Higher Education Commission staff. The de-identified demographic file was used as the base file, and all college semester-level enrollments and degrees completed were merged at the student level into a single flat file for analysis.

Subgroups were defined using 2007 student-level demographic information from the Tennessee Department of Education. All data were de-identified; statistical results on students in subgroups of fewer than 10 students were masked to preserve anonymity. Individual student counts were tabulated and used to calculate percentages.

All National Student Clearinghouse data were at the student level. The National Student Clearinghouse collates postsecondary data from more than 3,500 postsecondary institutions nationally (accounting for 98 percent of students) to verify enrollment for financial aid purposes; to aid high schools in tracking their students' college outcomes; to provide an electronic exchange for transcripts; and to provide data for districts, states, and researchers (National Student Clearinghouse Research Center, 2014).

## Notes

1. See <http://www.tennessee.gov/thec/topic/complete-college-tn-act> and [https://www.tn.gov/assets/entities/thec/attachments/CMSummer2010\\_CMSummer2010\\_I.A.1.%20Attachment%20-%20Master%20Plan.pdf](https://www.tn.gov/assets/entities/thec/attachments/CMSummer2010_CMSummer2010_I.A.1.%20Attachment%20-%20Master%20Plan.pdf).
2. A small number of students (fewer than 10) have a degree listed but no enrollment. This explains the discrepancies between the enrollment percentages in figures 1, 2, and 3 and the never enrolled subgroup in figures 4 and 5.

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