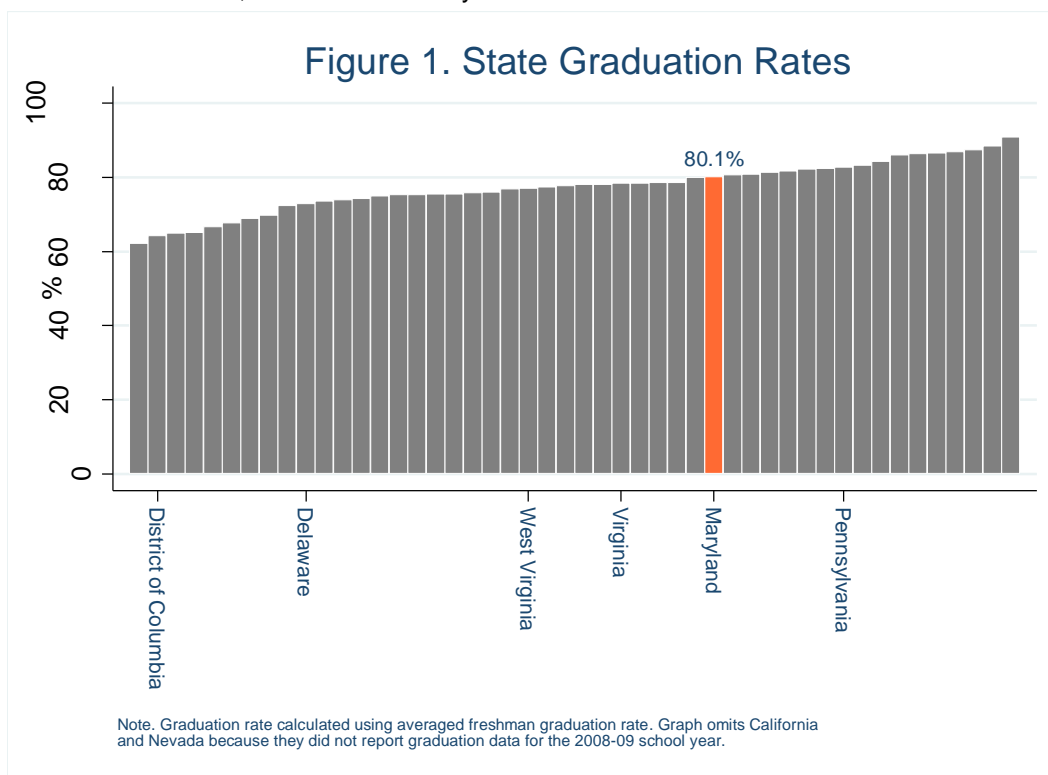# High School Graduation Rates in Maryland

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High school graduation rates are one of the most important measures of the overall effectiveness of our school system. Nearly all current school reform efforts are aimed at successfully moving students through the K-12 pipeline, which culminates with the receipt of a high school diploma. High school diplomas are important because the possession of one is usually the minimum level of education required for most jobs. Further, in a political landscape where there is an increasing focus on K-16 efforts, high school graduation stands as an important milestone for students making the transition from high school to college. Thus, the production of high school graduates is an important measure of how well schools and districts are performing.

State Graduation Rates
Among all states, graduation rates ranged from 62.2% to 90.7% in 2009 (found in Mississippi and Wisconsin, respectively).[1] Maryland, with a graduation rate of 80.1%, ranks 17th out of the 48 states (including the District of Columbia) that reported graduation data for the 2008-09 school year. As shown in Figure 1, this rate places Maryland ahead of its neighboring states of Delaware, Virginia, West Virginia, and the District of Columbia, but behind Pennsylvania.

Figure 1. State Graduation Rates

Note. Graduation rate calculated using averaged freshman graduation rate. Graph omits California and Nevada because they did not report graduation data for the 2008-09 school year.

District Graduation Rates
Among the school districts in the state of Maryland, high school graduation rates range from 56.4% in the Baltimore City district, to 93.5% in the Carroll County district. Of course, these district graduation rates are affected by not only local practices but also local resources and the characteristics of the students each district serves. We can use a regression model to account for various district characteristics, including the

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[1] All data in this report come from the National Center for Education Statistics' Common Core of Data and represent the 2008-09 academic year, the most recent year for which graduation rate data is publically available.

composition of the high school student body, urban setting, district expenditure per student, and student-teacher ratio, to create a predicted graduation rate for each district—what we think the graduation rate should be based on district characteristics and graduation rates of similar districts across the country. Although a regression model does not take into consideration every factor that influences its graduation rate, it does provide a useful metric by which to compare the graduation rates of districts with similar characteristics within the state and across the country.

Figure 2. Predicted vs. Actual Graduation Rates for Maryland School Districts

Note. Graduation rate calculated using average freshman graduation rate. Line indicates where predicted graduation rate equals actual graduation rate.
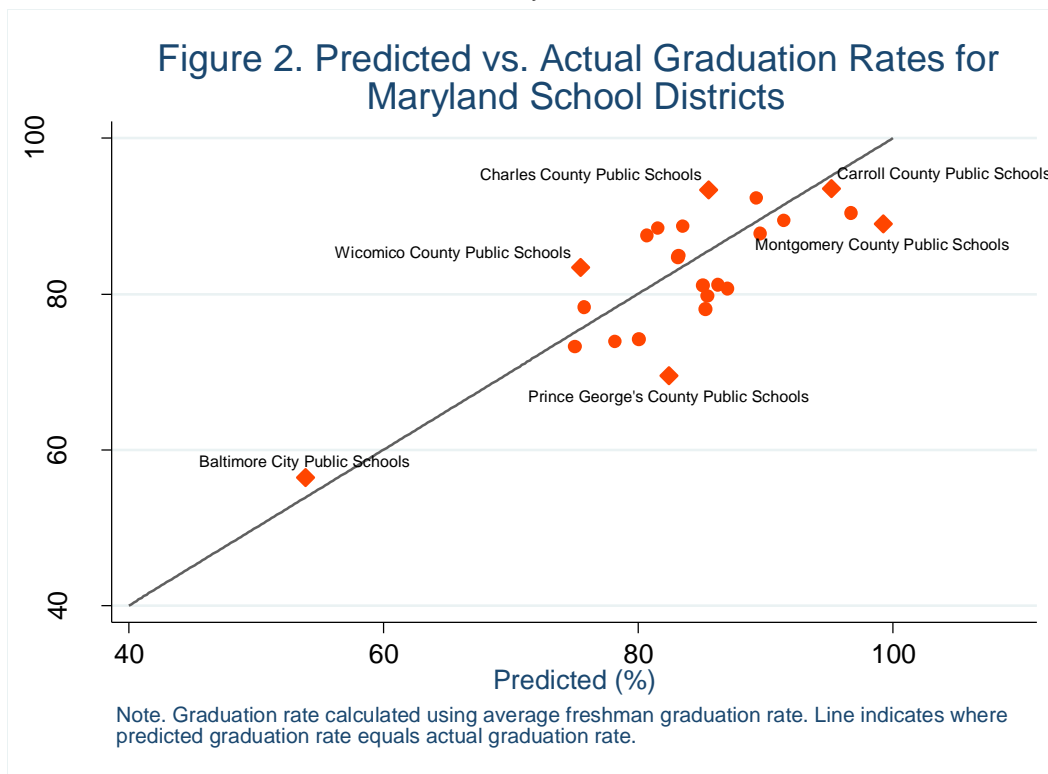
Figure 2 plots the predicted graduation rates derived from the regression model versus actual graduation rates for each district in Maryland. Each district in the state is represented by either a dot or labeled diamond. The line through the graph illustrates where predicted the graduation rates would equal the actual graduation rates. Districts above the line can be considered to be outperforming comparable districts in the country, while districts below the line are underperforming relative to comparable districts. However, given the error associated with any regression model, districts close to the line should generally be considered as performing as expected. Most Maryland districts fall into this category.

Overall, Montgomery Country Public Schools had the highest predicted graduation rate (99.3%) while Baltimore City Public Schools had the lowest (53.9%). However, Montgomery County, with an actual graduation rate of 89.0% was under its predicted mark while Baltimore City, with its actual 56.4% graduation rate, exceeded its predicted rate. With the highest actual graduation rate in the state (93.5%), Carroll County Public Schools was just under its predicted graduation rate by 1.7 percentage points. Wicomico County Public Schools and Charles County Public Schools exceeded their predicted graduation rates by 7.9 and 7.8 percentage points, respectively, the most of all Maryland districts. Prince George's County Public Schools and Montgomery County Public Schools each missed their predicted graduation rate by over 10 percentage points—they were under by 12.9 and 10.3 percentage points, respectively. The full list of predicted graduation rates compared to actual graduation rates is presented in Table 1, below.

A full description of the graduation rate prediction method is available in a technical appendix available at www.mdequity.org.

The Measurement of Graduation Rates

Graduation rates are surprisingly difficult to measure. It is easy to count the number of students who earn high school degrees in a given year. However, the challenge comes from deciding how many students could have graduated in that year—the number that serves as the denominator in the graduation rate calculation. If we use the number of high school seniors who started the school year then we risk *overstating* the graduation rate, as this method does not account for any students who dropped out of high school before their senior year. Alternatively, if we assume our base to be the number of students who started high school four years earlier we could use the number of ninth graders as the denominator in our graduation rate calculation. This method, however, generally *understates* graduation rates because it is common for students to be held back in ninth grade, inflating the apparent size of the ninth grade cohort. In this brief we use the *averaged freshman graduation rate*, which uses the average number of students enrolled in eighth, ninth, and tenth grade in a given district as the denominator in the graduation rate calculation. This is the method most commonly used in reports by the National Center for Education Statistics.

Table 1. Predicted versus Actual Graduation Rates in Maryland School Districts

District Name	Actual Graduation Rate	Predicted Graduation Rate	Over/Under
Carroll County Public Schools	93.5	95.2	-1.7
Charles County Public Schools	93.4	85.6	7.8
Frederick County Public Schools	92.3	89.3	3.0
Howard County Public Schools	90.4	96.7	-6.3
Calvert County Public Schools	89.4	91.5	-2.1
Montgomery County Public Schools	89.0	99.3	-10.3
Worcester County Public Schools	88.7	83.5	5.2
Washington County Public Schools	88.4	81.6	6.8
Queen Anne's County Public Schools	87.8	89.6	-1.8
Allegany County Public Schools	87.5	80.7	6.8
Garrett County Public Schools	84.9	83.2	1.7
Talbot County Public Schools	84.7	83.1	1.6
Wicomico County Public Schools	83.4	75.5	7.9
Anne Arundel County Public Schools	81.2	86.3	-5.1
Baltimore County Public Schools	81.1	85.1	-4.0
Harford County Public Schools	80.7	87.1	-6.4
St. Mary's County Public Schools	79.7	85.4	-5.7
Dorchester County Public Schools	78.3	75.8	2.5
Cecil County Public Schools	78.1	85.3	-7.2
Caroline County Public Schools	74.2	80.1	-5.9
Kent County Public Schools	73.9	78.2	-4.3
Somerset County Public Schools	73.2	75.1	-1.9
Prince George's County Public Schools	69.5	82.4	-12.9
Baltimore City Public Schools	56.4	53.9	2.5