

## 2024 Statewide School Enrollment Projection Methodology

This document describes the methodology used by the Cooper Center to project K-12 public school enrollment for each of Virginia's school divisions by grade for the next five school years, 2024-2028.

### Input Data

School enrollment projections require the use of fall membership counts and birth data. Historical and current fall membership counts record the number of students enrolled in each school division as of September 30th. These data are obtained from the Virginia Department of Education (VDOE). Birth data, obtained from the Virginia Department of Health are used to project kindergarten enrollment. Cooper Center demographers geocode the residence address of each birth mother to ensure that birth data have been assigned to the correct localities.

### Grade Progression Ratio (GPR) Method

School enrollment projections use past school enrollment trends to forecast future school enrollment, under the assumption that these trends are likely to continue in the near future. Grade progression ratios (GPRs) reflect enrollment trends by measuring the rate at which cohorts of children progress from one grade to the next. GPRs are determined by dividing the number of children enrolled in a particular grade by the number of children enrolled in the previous grade and school year. The kindergarten ratio represents the rate at which kindergarten-eligible children (typically at least 5-years-old at the beginning of a school year) enrolled in kindergarten. This ratio is determined by dividing actual kindergarten enrollment by the number of children born within a school division's jurisdiction five years prior. For example, 2024 Kindergarten GPRs were determined by dividing 2023 kindergarten enrollment by the number of children born in 2018.

GPRs capture the impact of school transfers, migration, dropouts, and deaths. GPRs greater than 1.0 mean that the number of students enrolled in a grade is greater than those of the previous grade one year prior. Alternatively, GPRs less than 1.0 indicate that fewer students progressed from the previous grade into the next grade. Year-to-year fluctuations in GPRs can obscure school enrollment trends. Therefore, multiple GPRs are often combined into a single measure to "smooth" these fluctuations.

## Control Totals

Projecting school enrollment at the state level typically yields a more accurate and reliable enrollment forecast than at the school division level. Therefore, division-level grade projections are controlled to state totals by applying adjustment factors that marginally lower or increase the number of projected students. The combined effect of these small adjustments makes the sum of all division-level projections for a given grade match the corresponding state total.

## Adjustments

The pandemic created an unprecedented challenge to projecting school enrollment. In fall 2020, Virginia public schools experienced a sudden drop of more than 45,000 students. Recovery has been slow for many school divisions, which makes the trajectory of school enrollment uncertain. As of fall 2023, nearly 40,000 fewer students were enrolled in Virginia public schools compared to fall 2019. At the same time, enrollment in full-time, virtual schooling programs grew during and after the pandemic, which posed another challenge to projecting school enrollment. These two pandemic-induced factors required the following adjustments to the standard grade progression ratio methodology detailed above:

1. We excluded GPRs derived from 2020 enrollment data, as the sudden decline in fall 2020 enrollment resulted in many outlier GPRs that would distort projected trends. In lieu of using affected ratios, we used a combination of two GPRs derived from the most recent enrollment data (2021-2023) and stabler GPRs derived from pre-pandemic data to project school enrollment. Specifically:
  - a. For Virginia's 33 smallest school divisions,\* a greater degree of post-pandemic enrollment volatility required that two GPRs derived from 2021-2023 enrollment data were combined with four GPRs derived from 2015-2019 data to project grades K-12.
  - b. For the remaining 98 school divisions, a combination of two GPRs derived from 2021-2023 enrollment data and two GPRs derived from 2017-2019 data were used to project grades 1-12. Kindergarten enrollment has been exceptionally slow to recover since the pandemic. Rigorous testing suggested that projecting kindergarten enrollment with only post-pandemic GPRs provided the most reasonable outlook.
2. We took careful steps to mitigate the influence of erroneous and outlier ratios. Analysis indicated that ratios less than 0.4 and greater than 1.6 were—in nearly every case—the result of incorrect input data. Ratios outside of this threshold were eliminated from the projection model. Pre-pandemic ratios were then compared to a division-specific benchmark of six GPRs derived from 2014-2019 enrollment data; GPRs that varied more than 20% from the

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\* These 33 divisions represent the first quartile (fewer than 1,700 students) of Virginia's 131 school divisions based on 2019 total enrollment data.

benchmark were further removed from the projection model and replaced with an average of remaining pre-pandemic GPRs.

3. We also addressed complexities that result from “multidivisional online provider” (MOP) programs, in which school divisions partner with a third party to offer full-time virtual schooling. MOP eligibility is not limited to students who physically reside in the offering division; in fact, MOPs primarily enroll students who live elsewhere in the state. The addition of non-resident MOP students in school divisions’ fall counts paired with sporadic changes in capacities to enroll these students results in unrealistic GPRs. Therefore:
  - a. We used data provided by VDOE to remove any non-resident MOP students from affected school divisions’ enrollment counts, as even a small number of these students can distort enrollment trends. This means that non-resident MOP students also do not appear in division-level projections.
  - b. Non-resident MOP students were included in state school enrollment projections as all MOP students are foremost Virginia residents and should be included in Virginia’s total public school enrollment. The 2023 count of non-resident MOP students, however, was held constant over the five-year projection period, given the difficulties in anticipating MOP enrollment.

## Review and Comment Period

The 2024 school enrollment projections were released on January 16, 2024. A three-month review and comment period will extend to March 31<sup>st</sup>, 2024, in which we invite school divisions to review their projections. There are instances where school divisions’ fall counts are misreported to VDOE. Incorrect enrollment data negatively impact projection accuracy. School divisions should contact us if they observe such discrepancies.<sup>†</sup> We also welcome questions and feedback regarding our methodology and projections.

Final 2024 school enrollment projections will be released on April 15<sup>th</sup>, 2024.

*Please direct any questions and feedback regarding the Cooper Center’s 2024 School Enrollment Projections to Zachary Jackson at [ten2se@virginia.edu](mailto:ten2se@virginia.edu).*

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<sup>†</sup> Incorrect data must also be reported to VDOE so that the official fall count can be updated accordingly.