Demographic Analytics Advisors

Enrollment Forecasting, Capacity, and Utilization Analysis

Best Practices and an Assessment of Current Models — Olathe Public Schools

Prepared for: Olathe Public Schools
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Executive Summary

This paper is a best-practices review of school-district enrollment forecasting, capacity measurement, and building-level utilization analysis, followed by a direct assessment of current practice at Olathe Public Schools (USD 233, Kansas). Measured against a panel of Kansas City metropolitan peers and a set of national exemplar districts, Olathe's current practice sits notably above the median for districts of its size. The district is using the right forecasting method for its growth profile, measures capacity with the right definition, and links its analytical outputs to the governance decisions they inform. The opportunities for Olathe to move from strong-for-its-size toward being at the frontier of forecasting and capacity analysis in the United States are both specific and addressable.

This assessment uses a four-theme frame: documentation maturity, methodological rigor, decision linkage, and subgroup visibility. It applies that frame to a two-tier peer panel. The first tier is five Kansas City metro districts that share a labor market and commuting area with Olathe: Blue Valley, Shawnee Mission, Lee's Summit R-VII, North Kansas City, and Park Hill. The second tier is five national exemplars whose published materials illustrate specific practices discussed in Chapters 3 and 4: Wake County PSS in North Carolina, Frisco ISD in Texas, Douglas County SD and Boulder Valley SD in Colorado, and Loudoun County PS in Virginia. The national exemplars are not chosen as most-similar-to-Olathe. They are chosen for what can be learned from their documentation.

For Olathe Public Schools, three clusters of strength stand out. On documentation maturity, the forecasting workbook and capacity inventory are both preserved year over year in the same structure, which makes year-to-year comparison possible, and the school rubric is documented with explicit indicators and weights. On methodological rigor, the hybrid subdivision-based cohort-progression method is the right method for Olathe's size and growth profile and is substantially stronger than a district-wide cohort-survival approach. The grid-level housing overlay gives the forecast a spatial granularity that few peer districts of this size achieve in-house.

The capacity inventory correctly uses functional rather than design capacity, with the option for Title 1 and non-Title 1 loading distinctions that respect real program differences across the district's schools. On decision linkage, Olathe reports utilization for each building at both the current year and the end of the forecast horizon, letting the reader see not only where a building stands today but where it is trending, the Planning Area structure ties utilization and forecast output to the geographic units that the administration, board, and community discussions will actually use, and the school rubric gives facility decisions an explicit written frame. Two practices deserve specific mention because they are uncommon at peer districts of comparable size. Olathe publishes its forecast accuracy record each year (99.2% at the district total for the 2024-25 cycle, broken down by educational level), and it maintains a standing Boundary Study Group paired with a documented multi-option community-engagement practice.

The opportunities for improvement for Olathe are relatively minor and fall into a near-term track and a longer-term track. In the near term, Olathe should consider the following:

- A cell-integrity audit on the forecasting workbook would catch stale formula references before they propagate.
- A validation rule on the capacity inventory's last-updated column would make the audit trail scan-ready.
- Scenario-display conventions would make baseline versus alternative legible at a glance across sheets.
- A short, plain-language description of the forecast (inputs, method, scenarios) published alongside the annual workbook would make the analytical work auditable by a successor analyst or an external reader. The same document would map the district's three capacity measures (functional capacity, room utilization, staffing capacity) to the decisions each one informs.
- An annual back-test of the prior cycle's forecast against realized enrollment, published alongside the workbook, would document the method's performance over time.
- A grade-subgroup view on the utilization and forecasting outputs, at minimum for multilingual learners and students with Individualized Education Programs, would make subgroup composition visible in building-level decisions.

As longer-term investments, Olathe may wish to add a probabilistic uncertainty band to its ten-year forecast, a practice relatively few districts of any size currently implement, and to migrate the forecasting workbook from its current spreadsheet-based form to a scripted pipeline that automates the end-to-end forecast and re-runs on a new data vintage with a single command, while also automating Quality Assurance. The longer-term items change the way the method is implemented and checked, not the method itself, and are appropriate to plan for once the near-term practices have been in place for a cycle or two.

Olathe's forecast and facility methodology is in a good spot for the work of the Student Enrollment and Facility Alignment Task Force. The district's current forecasting, capacity, and utilization practice is strong. None of the actions recommended in this paper are critical enough to stop or slow the Task Force's work. They are about hygiene, not errors. A district that can point, in a public meeting, to its forecast's back-test, its capacity inventory's audit trail, and its utilization trajectory's uncertainty band is a district whose governance body is equipped to reason about facility choices on terms the public can see. Demographic Analytics Advisors will continue to advise Olathe Public Schools on the questions this paper raises, and on the related demographic, capacity, and facility-planning questions that will arise as the Task Force's work proceeds, through the remainder of the engagement.

Chapter 1. Introduction

About Demographic Analytics Advisors

Demographic Analytics Advisors is a demographic, economic, and data science consulting firm with experience developing small-area population estimates for federal, state, and local governments.

Our three principals together bring more than sixty years of combined experience across demography, employment analysis, GIS, and forecasting. Each has worked directly either for the U.S. Census Bureau developing population estimates and projections for the United States and its component geographies, or for local governments doing the same. Many of the estimation procedures still in place at the Census Bureau were developed in the early 1990s by Dr. Ron Prevost.

Chris Dick's Census Bureau tenure culminated as chief of the Population Evaluation, Assessment and Projections Branch, where he oversaw planning for the Bureau's Demographic Analysis, its estimates evaluation program, and the annual research and development program for population estimates and projections. Beth Jarosz has managed long-range regional growth forecasts for multiple California councils of governments, running the full cycle from data collection and forecast production through advisory-committee review and policy-committee and public presentations of findings.

Demographic Analytics Advisors has worked with school districts across multiple states, and with government, non-profit, and for-profit organizations more broadly, to build rigorous understandings of their populations of interest through demographic and data-science methods. We are a small firm, and our current growth focus is the analytic core of this paper: school-enrollment projections, demographic studies, and redistricting, together with other public-sector engagements that pair demographic analysis with improving outcomes for communities and individuals. We write this paper as practitioners producing the kind of forecasts and capacity analyses it reviews for districts across the country. We draw on those engagements, not on a purely academic reading of the literature, to describe what good practice looks like in each area.

A representative sample of Demographic Analytics Advisors' recent forecasting and estimation engagements appears below.

Table 1: T-01. Representative Demographic Analytics Advisors forecasting and estimation engagements.

Representative Demographic Analytics Advisors engagements		
Client	**State**	**Engagement scope**
Francis Howell School District	MO	District enrollment forecasting
St. Louis Public Schools	MO	District enrollment forecasting
Riverview Gardens School District	MO	District enrollment forecasting
Wake County Public School System	NC	District enrollment forecasting
Brunswick County Public Schools	NC	District enrollment forecasting
North Carolina Department of Public Instruction	NC	Enrollment forecasts for all 100 school districts in North Carolina
Orange County Public Schools	NC	District enrollment forecasting
Chapel Hill-Carrboro City Schools	NC	District enrollment forecasting
Transylvania County Public Schools	NC	District enrollment forecasting
Horseheads Central School District	NY	District enrollment forecasting
Norfolk Public Schools	MA	District enrollment forecasting
Lexington-1 School District	SC	District enrollment forecasting
Connecticut Department of Public Health	CT	Town-level population estimates for the state
University of Florida	FL	State and county population estimates and forecasts for the state legislature
Lee-Moore Capital Company	NC	Demographic estimation and analysis
Western Connecticut State University	CT	Demographic estimation and analysis
Selected recent Demographic Analytics Advisors forecasting and estimation engagements. Not an exhaustive client list.		

The Authors

This paper was written by the three principals of Demographic Analytics Advisors. Between them they bring extensive experience in the development and delivery of demographic and economic studies for local, school-district, state, and federal government, and each contributed to the sections of this paper most closely aligned with their own work. Short biographies follow.

Christopher Dick, President and Founder. Chris Dick is the president and founder of Demographic Analytics Advisors. He received his MA in sociology from Washington State University and is ABD in sociology from North Carolina State University. Chris began his career at the United States Census Bureau as a demographer working on population estimates for the cities, towns, and counties in the United States, and by the time he left the Census Bureau was the chief in charge of estimates research as well as the population projections for the United States. During this time, Chris also spent a short stint at the United States Citizenship and Immigration Services developing projections of immigration for workforce modeling and site placement for USCIS staff and buildings. Before founding Demographic Analytics Advisors, Chris ran the government practice of Civis Analytics, where he worked with local, state, and federal government clients to better use data to run their organizations. As the founder of Demographic Analytics Advisors, Chris provides demographic expertise and methodological rigor to clients in the public, non-profit, and private sectors. Chris is a recognized expert on federal, state, and local public data sources, including all U.S. Census Bureau data assets. He is a former board member of the Federal Forecasters Consortium, a founder of and collaborator on the projects *dataindex.us* and *essentialdata.us*, a fellow at Harvard Law's Library Innovation Lab, and a member of numerous professional organizations in the field of demography and population studies.

Beth Jarosz, Senior Vice President of Forecasting and Demography. Beth Jarosz is the Senior Vice President of Forecasting and Demography at Demographic Analytics Advisors. She is also a senior fellow at the Massive Data Institute at Georgetown, where she works on efforts to strengthen public data infrastructure. Prior to joining Demographic Analytics Advisors, Jarosz oversaw the Population Reference Bureau's (PRB) California portfolio of work, including regional growth forecasting for AMBAG, MCAG, SANDAG, SCAG, SLOCOG, and TCAG, and Regional Housing Needs Assessments (RHNA) for AMBAG and San Benito COG. Prior to joining PRB, Ms. Jarosz was Senior Analyst at the San Diego Association of Governments, where she managed the long-range regional growth forecasts, including all aspects of forecast development: data collection, forecast production and documentation, advisory-committee review, and policy-committee and public presentations of findings. She also served as a key member of SANDAG's RHNA team during her tenure. In that role she coordinated the annual MPO/COG Socioeconomic Modeling Mini-Conference, which brings representatives from around the nation together to discuss best practices in regional and subregional modeling, and provided support to AMBAG on its 2014 Regional Growth Forecast. She has authored several peer-reviewed journal articles and conference presentations on estimation and forecasting techniques, and serves as Vice President of the Association of Public Data Users. Ms. Jarosz completed her Master's in demographic and social analysis at the University of California, Irvine.

Dr. Ronald Prevost, Senior Vice President for Demography. Dr. Prevost received his PhD in demography from Bowling Green State University in Ohio, where he also started his career as the State Demographer for Ohio. From that position, Dr. Prevost moved to the United States Census Bureau to help develop and produce population estimates and projections for the United States. Dr. Prevost's methods are still largely employed in the development of population estimates for cities, towns, counties, states, and the nation to this day. Dr. Prevost also led multiple other areas of the Census Bureau, as well as serving at the Office of the Inspector General at the Department of Commerce as the OIG representative that oversaw the Census Bureau and other statistical agencies. This work included being the Director of and developing the Longitudinal Employer-Household Dynamics program, a key data source for understanding employment and commuting patterns. Currently Dr. Prevost is a Research Professor at the Massive Data Institute at Georgetown University and is the Senior Vice President for Demography at Demographic Analytics Advisors. Dr. Prevost is a recognized expert on the 2020 Census and on the impacts of changes in privacy protections (differential privacy), as well as the operational and questionnaire changes that shape the time series used for post-2020 forecasting. He is a member of several professional organizations in demographic methods and currently serves on the Census Scientific Advisory Committee, where he focuses primarily on advising the Census Bureau on population-estimates methodology.

Why This Paper

Some school districts publish an enrollment projection and a facility-capacity inventory on a regular cycle. Far fewer publish the assumptions, the input data, the sensitivity of the projection to those assumptions, or the reasoning that links a utilization number to a governance decision. The gap between what the field considers best practice and what districts actually document in public-facing planning materials is larger than the underlying analytical literature would suggest.

This paper has two purposes. The first is to gather, in one place, the current state of practice in three tightly linked areas (enrollment forecasting, school capacity measurement, and building-level utilization analysis) and to describe what good practice looks like in each. The second is to apply that frame to a specific district: Olathe Public Schools (USD 233, Kansas), the second-largest district in Kansas and the largest in the Kansas City metropolitan area. Olathe is actively deliberating potential school consolidations through its **Student Enrollment and Facility Alignment Task Force**, announced in early 2026. **This paper was written for this task force because the district understands that decisions of this weight warrant a second set of eyes and additional documentation. Olathe is therefore a useful and timely case for walking through how the best practices in the preceding chapters play out in a single real district's materials.**

Scope And Approach

The paper is oriented to K-12 public school districts and their demographic-planning workflows. It does not cover higher-education enrollment, state- or federal-level cohort accounting, or demographic work outside an education context. Within that scope, three questions organize the chapters:

1. **What is a school-district enrollment forecast, and what makes one good?** What data inputs, methods, uncertainty treatments, and documentation practices distinguish a forecast that can support capital planning from one that cannot?
2. **What is school capacity, and what makes a capacity inventory good?** How do districts define it, how do they measure it consistently across buildings, and what practices keep the inventory trustworthy as programs change?
3. **What is utilization, and what makes a utilization analysis useful?** How does a district move from a raw occupancy percentage to a decision-grade picture of whether a building is under- or over-used, and why?

The next chapter places Olathe in the context of patterns in enrollment and facility utilization both internally, as well as compared to peers. Next, after the two topical best practice chapters, a dedicated chapter applies the resulting best-practice frame to Olathe. It describes Olathe's current forecasting, capacity, and utilization methods as they can be reconstructed from publicly and internally available materials. It identifies the practices Olathe already does well, names the opportunities for improvement, and closes with a set of advisory recommendations the district can weigh as the Task Force's work proceeds.

How To Read This Paper

This paper is best read front to back. However, Chapters 3 and 4 can be read independently. Each closes with a short synthesis of what the associated best practice looks like. Each uses a consistent comparison frame: documentation maturity, methodological rigor, decision linkage, and subgroup visibility. This consistency allows readers comparing two districts or two methods to compare like with like. Figures and tables are numbered F-## and T-## and are cross-referenced in-line. Appendix A highlights the key methodological sources behind the paper, Appendix B is a glossary, Appendix C is a short peer district index, Appendix D is the self-review checklist a district can use to test its own forecasting and capacity materials against the practices in Chapters 3 and 4, and Appendix E is the full bibliography.

Chapter 2. Context: Olathe And Its Peers

This chapter locates Olathe within the population, enrollment, and labor-market landscape that shapes its forecasting and facility-planning problem. It is descriptive, not evaluative. The purpose is to give later chapters a consistent set of comparators: the Kansas City metropolitan peer districts and the national exemplar districts introduced in §2.8. When Chapter 5 says Olathe's practice is "strong" or "typical for a district of its size," the reference class is explicit.

This chapter also helps to level-set for the **Student Enrollment and Facility Alignment Task Force**, and the work that they will be doing. Much of these data are re-hashing what the District has already presented at different board meetings, but putting it all together, and in context of a few other districts is an important process before we begin talking about best practices.

Olathe In Brief

Olathe Public Schools (USD 233) serves the city of Olathe and portions of surrounding unincorporated Johnson County, Kansas (approximately 80 square miles at the southwestern edge of the Kansas City metropolitan area). It is the second-largest district in Kansas, behind only Wichita USD 259, and the largest district in the Kansas City metropolitan area (Kansas State Department of Education 2025; National Center for Education Statistics 2024a). It operates 36 elementaries[1], 10 middle schools, and 5 high schools organized into Planning Areas. Attendance-area boundaries are managed by a standing Boundary Study Group that has operated continuously for over twenty years. This practice is noteworthy and Chapter 5 returns to it.

The district enrolled 28,140 K-12 students in 2025-26. That figure sits 2,159 students below the historical peak of 30,299, set in 2019-20. *The intervening seven-year drift is the first sustained multi-year decline in the district's full 60-year enrollment record.* Looking one step ahead, the February 17, 2026 internal forecast puts 2026-27 at 27,852, down another 288 students from this school year. Looking nine years ahead, the district's projection lands at 25,792 by 2034. That represents a further 2,348-student decline, or 8.3 percent, from the 2025-26 school year.

Additionally, the composition of the student body has changed as the total has shifted. National School Lunch Program participation rose from 10.5 percent in 2001-02 to 31.03 percent in the 2025-26 school year, roughly a tripling over a generation and the highest share in the 25-year record (Kansas State Department of Education 2026). The multilingual-learner count reached 6,295 in 2025-26, up from 5,343 in 2019-20, and special-education enrollment (excluding gifted and speech-only services) grew about 27 percent over a recent ten-year window. The 2025-26 race and ethnicity distribution is 61.3 percent Caucasian, 20.3 percent Hispanic or Latino, 7.9 percent African American, 5.5 percent multiracial, and 4.4 percent Asian.

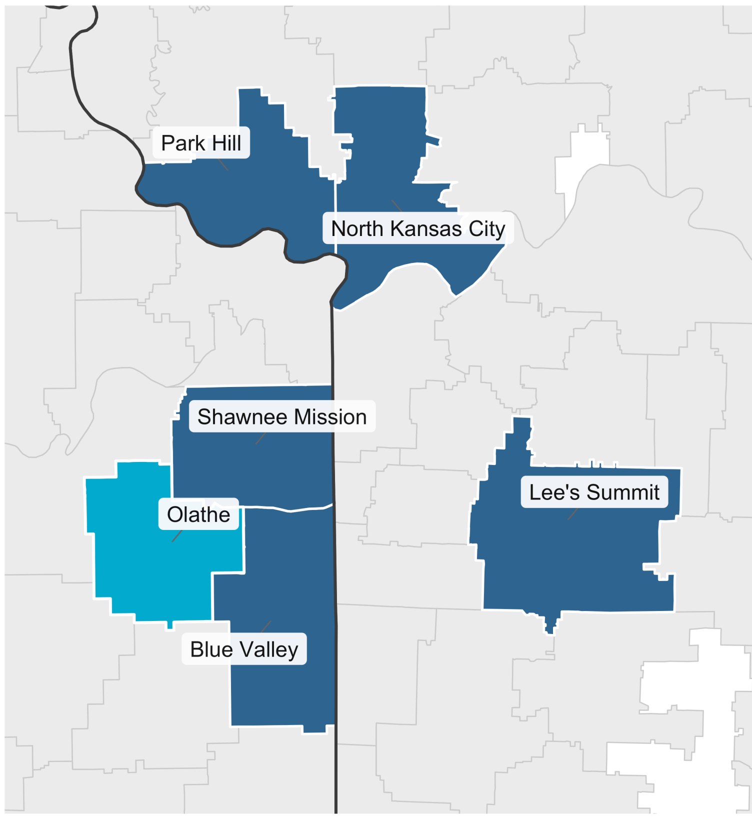
The forces moving the total show up in three underlying series. Annual residential permitting in the service area fell from 2,350 units in 2001 to 533 in 2024. That is a 77 percent decline. Over the same window, the service-area population of women aged 20 to 44 grew 15 percent while total population

[1] As of 2026-27, Westview Elementary will be closed and repurposed as a specialized K-8 campus and this number will go down to 35 (Olathe Public Schools 2025).

grew 49 percent, tilting the reproductive-age denominator against births. The student-per-single-family-home yield at three illustrative subdivisions dropped by roughly half over twenty-one years. ***The strategic question Chapter 5 takes up is this: how does a district built for growth revise its facility, boundary, and capital practice to manage a sustained period of decline?***

Olathe Public Schools and its Kansas City metropolitan peer districts

Olathe USD 233 in cyan; KC-metro peer districts in dark blue



Sources: Olathe Public Schools GIS (USD 233 boundary); U.S. Census Bureau TIGER/Line Unified School Districts, 2023 vintage.

Figure 1: F-01. Olathe Public Schools (USD 233) and its Kansas City metropolitan peer districts. Neighboring unified school districts are shown in light gray for spatial context; the Kansas-Missouri state boundary is shown as a dark line.

F-01 places Olathe at the southwestern edge of a crowded cluster of unified school districts spanning the Kansas-Missouri state line. The five KC-metro peers used throughout this paper sit within commuting distance of one another and share a labor market with Olathe, which is the practical reason they anchor the peer panel (§2.5). The state boundary that separates the Kansas peers from the Missouri peers matters for the comparison work that follows because state-level reporting systems (KSDE in Kansas, MO DESE in Missouri) structure the underlying enrollment data differently, a point that will return in §2.5 and in Chapter 3′s peer-practice survey.

Population And Demographic Structure

The population and age structure of a district's resident service area (not the enrollment itself) is the foundation of any enrollment forecast. Births, in-migration of school-age children, aging of current households, and outflows to neighboring districts or private alternatives all impact enrollment. The best forecasting practices in Chapter 3 depend on tracking these flows explicitly and incorporating them in the forecast directly when necessary. This section summarizes those inputs for Olathe.

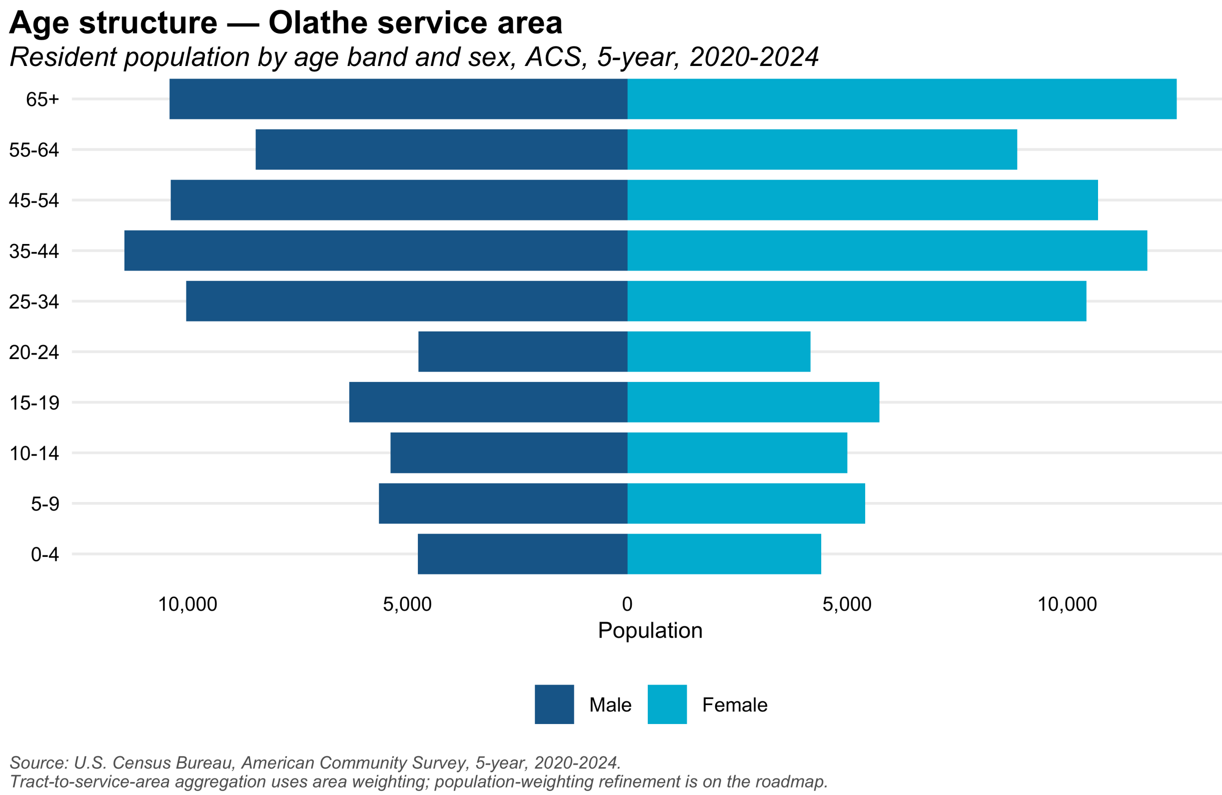


Figure 2: F-02. Age pyramid for the Olathe Public Schools service area, ACS, 5-year, 2020-2024.

The service-area total resident population is approximately 156,595 (ACS, 5-year, 2020-2024), of whom 28,140 are currently enrolled in Olathe schools (about 18 percent). The shape of the pyramid is the thing that matters for forecasting. The 35-44 band is the widest in the distribution, and the 0-4 and 5-9 bands sit materially narrower than that 35-44 parent cohort. Two inferences follow. First, the width of the 0-4 and 5-9 bands relative to the parent 25-44 bands is the clearest leading indicator of near-term kindergarten class sizes. Narrower child bands at constant fertility imply smaller entering cohorts. Second, the balance between the parent-age bands and the 55-plus bands signals how much of the district's housing stock is likely to turn over (empty-nest transitions returning households with school-age children) versus stay in place (aging-in-place reducing child density in existing neighborhoods). Overall, Olathe is top heavy compared to it's historical population shape, like many communities in the United States have become. Chapter 3′s methods differ in how much of this structure they actually use. Chapter 5 assesses how much of it Olathe's current method uses.

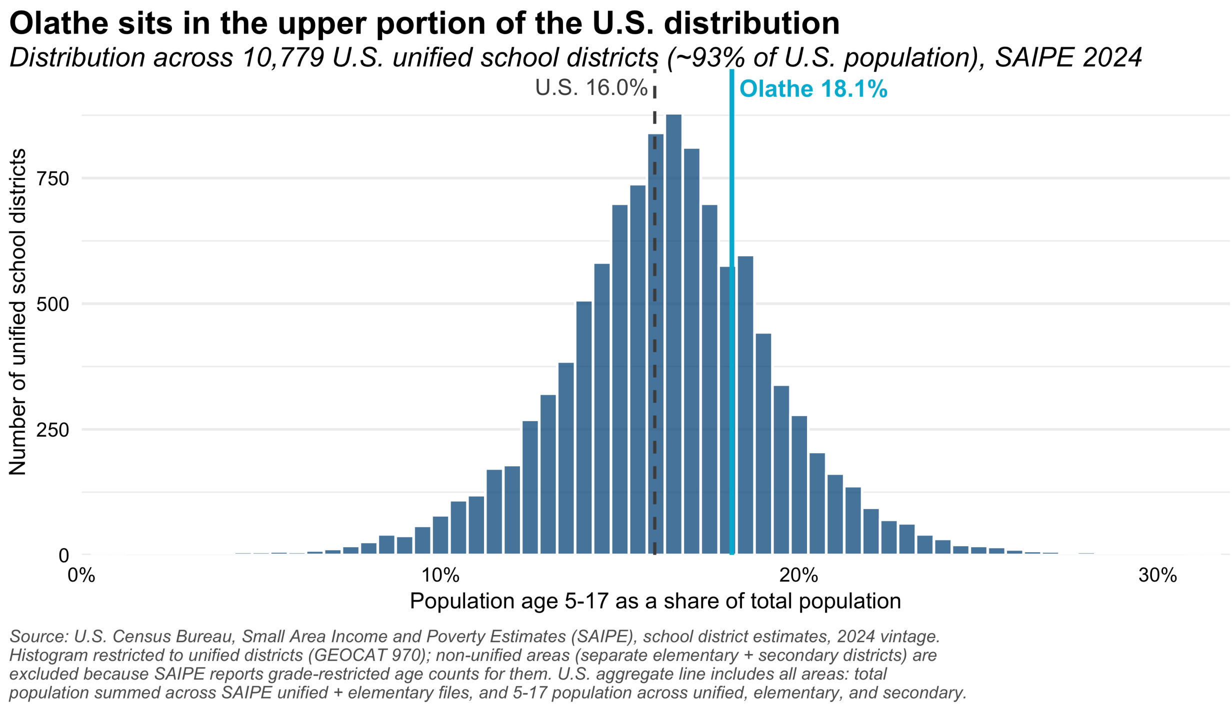


Figure 3: F-03. Distribution of the 5-17-to-total-population proportion across U.S. unified school districts (the ~93 percent of the U.S. population covered by unified districts), SAIPE 2024 (most recent vintage). Non-unified areas (separate elementary and secondary districts, common in IL, NJ, MA, CT, ME, and parts of NY/VT) are excluded from the histogram because SAIPE's school-district file reports grade-restricted age counts for those districts; they are included in the U.S. aggregate line. Olathe USD 233 and the U.S. aggregate are marked with vertical lines.

The figure above shows the distribution of the proportion of the population aged 5-17 to the total population for all unified school districts in the United States. The distribution is centered near 16 percent — across the roughly 10,800 unified U.S. school districts in the 2024 SAIPE vintage, the median 5-17 share of total population is 16.3 percent and the interquartile range runs from 14.5 to 18.1 percent (U.S. Census Bureau 2025). The histogram is restricted to unified districts (about 93 percent of the U.S. population) because SAIPE reports grade-restricted age counts for elementary-only and secondary-only districts and a per-district 5-17/total proportion does not apply cleanly to those geographies; the U.S. aggregate line includes all areas. Olathe sits at 18.1 percent in 2024, near the top of the middle half of the unified-district distribution and well above the U.S. aggregate of 16.0 percent. That gap has been a steady feature of the district's demography for the last quarter century, but it has narrowed as both Olathe and the country have aged. In 2000, Olathe's 5-17 share was 20.8 percent against a U.S. aggregate of 18.7 percent (a 2.1-point gap). In 2010, the values were 20.5 and 17.4 percent (3.1 points). In 2020, 18.9 and 16.2 percent (2.7 points). In 2024, 18.1 and 16.0 percent (2.1 points). Olathe remains a comparatively child-rich district, but the long-term direction of travel — fewer 5-17-year-olds per capita — is the same as the national one, and is the demographic foundation underneath the enrollment trajectory and the capacity-and-utilization picture later in this chapter.

Births

Births are the first input to any long-range enrollment forecast. A child born this year enters kindergarten in roughly five years, sits in a third-grade seat in eight, and is on the way to high school in thirteen. The births that matter most to Olathe are resident births to women living inside the service area, a quantity the state does not release directly but that closely tracks county-level births to women aged 20 to 44.

Johnson County resident births have held close to flat over the last several years at roughly 6,800 to 7,000 per year. That apparent stability masks two structural features of the underlying population. First, the reproductive-age denominator has thinned: between 2000 and 2020, the service-area population of women aged 20 to 44 grew 15 percent while total population grew 49 percent. Had the two grown at the same rate, the district's own estimate is that an additional 28,500 children would have been born into the service area over the comparison window. Births are steady not because fertility is steady, but because a shrinking reproductive-age share is offsetting the growth in other age bands.

The Kansas macro context reinforces the Johnson County pattern. State-level annual birth counts have fallen roughly 20 percent since the 2007 U.S. birth peak (Kansas Department of Health and Environment, Bureau of Epidemiology and Public Health Informatics 2024), mirroring the national post-2007 decline (Hamilton et al. 2024). A forecasting method that anchors on resident births alone, without tracking the parent-age denominator that produces them, will miss the compositional shift that drives kindergarten-entry cohorts smaller even when raw birth counts stay level.

Migration

Migration is where forecasts most often go wrong because migration is very hard to estimate and even harder to forecast. Two sub-flows matter, each with its own data source and its own typical failure mode:

1. **Domestic migration.** Inter-county moves into and out of the district, captured in ACS mobility-by-age and mobility-by-nativity tabulations (ACS, 5-year, 2020-2024). Olathe sits in a metro area where most domestic in-migration comes from elsewhere in Johnson County and from the Missouri side of the metro. The age profile of movers skews toward households with young children, which is exactly the population enrollment forecasts are most sensitive to.
2. **International migration.** Directly into the district's service area and indirectly via domestic moves of the foreign-born population, captured in ACS place-of-birth, year-of-entry, and language tabulations (ACS, 5-year, 2020-2024). In Olathe as in other parts of Johnson County, international migration is a non-trivial and growing component of net population change, but this is also likely to change given the federal level policy changes that have occurred over the past couple of years. Forecasts that rely only on historical births will miss it.

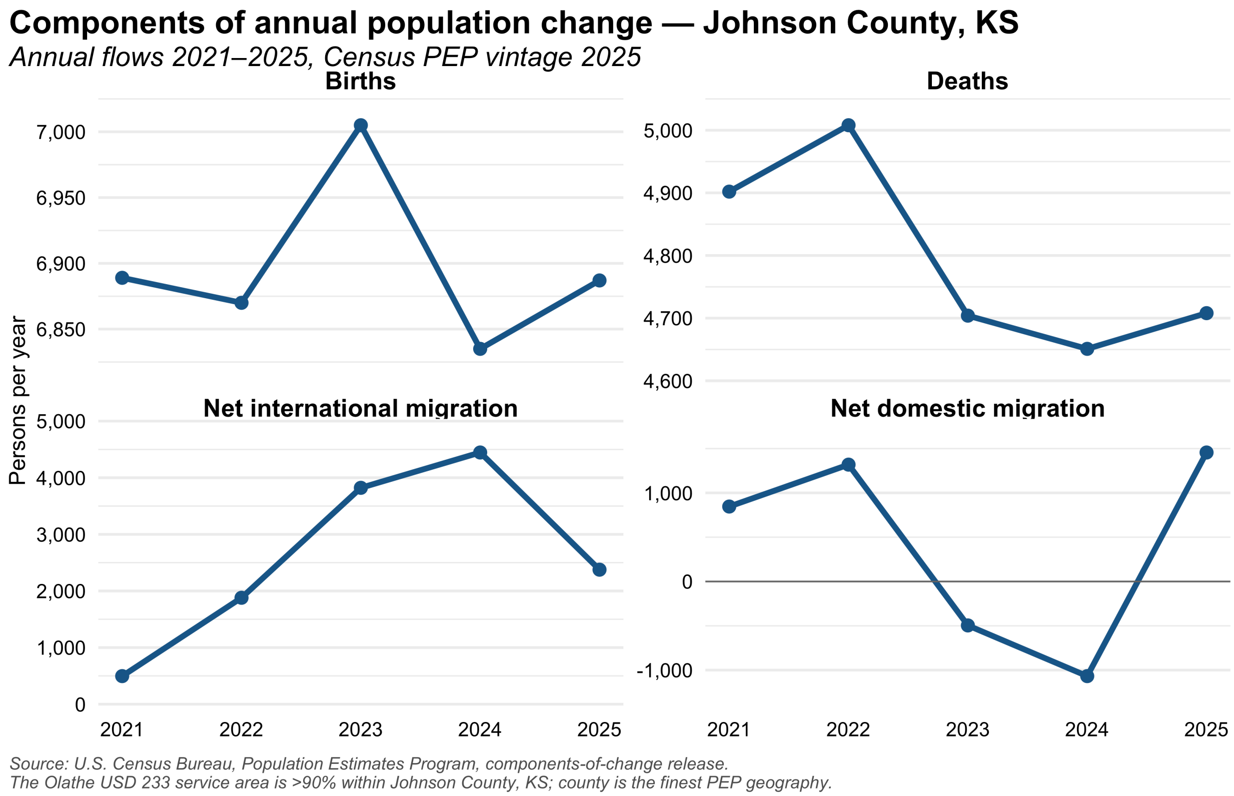


Figure 4: F-04. Annual flow components of population change, Johnson County, KS (county-level approximation of the Olathe service area).

Two features of the Johnson County panel are important to understand. First, international migration has moved from a pre-pandemic baseline near +500 persons per year in 2021 to +4,446 in 2024, settling at +2,376 in 2025. This increase from a pandemic low, to a historic high, and then back down to a more "normal" level, is likely to decrease again, at least for the next couple of years. That is a roughly eight-fold increase in the 2024 peak year. Second, net domestic migration flipped sign twice over the same period, running +1,319 in 2022, dropping to −1,068 in 2024, and returning to +1,456 in 2025. Births have been close to flat at about 6,800 to 7,000 per year, and deaths have held near 4,700 to 5,000. The natural increase is roughly 2,000 persons annually, which is small next to the swings in migration. A forecasting method that relies only on lagged births, without tracking the migration components alongside, will miss most of the recent volatility.

Housing Turnover

In board meetings throughout the country, a version of this argument comes up repeatedly: *We are decreasing now, but these neighborhoods will turn over. Empty nesters will sell, young families will move in, and enrollment will come back.* The first phenomenon running against this argument is the idea of aging-in-place. This is the pattern of long-tenured homeowners remaining in their homes as their children age out of the district, rather than downsizing and selling to a younger family with school-age children.

The national evidence pushes back on the turnover assumption, and lends credence to the aging-in-place phenomenon on two separate dimensions: how often homes change hands, and who moves in when they do. Median U.S. homeowner tenure reached 12 years in 2025 — roughly double the 6.5-year median Redfin recorded at the start of its series in 2005 (Redfin Corporation 2026). Just 2.5 percent of U.S. homes changed hands in 2024, the lowest turnover rate in at least 30 years (Redfin Corporation 2024). American Community Survey data points the same direction from the stock side of the transaction: in the 2020-2024 5-year estimates, the median owner-occupier householder in the United States moved into their current home around 2010, implying roughly twelve years of median tenure at the midpoint of the survey window (U.S. Census Bureau 2024). The Federal Housing Finance Agency's 2024 analysis of the mortgage-rate lock-in estimates that for every 1-percentage-point gap between a homeowner's origination rate and current market rates, the probability of sale falls by 18.1 percentage points (Batzer et al. 2024). Just over half of U.S. mortgage holders carry a rate below 4 percent as of late 2024 — down from a pandemic-recovery peak of roughly 65 percent in early 2022 (Federal Housing Finance Agency 2024). The mortgage-rate lock-in is likely not a temporary business-cycle condition that will reverse when market rates normalize. It is the durable consequence of most current owners carrying sub-4 percent mortgages originated in 2020-2022, rates that are fixed for the life of the loan. Moving requires giving those rates up, so the disincentive to move persists as long as market rates stay meaningfully above the locked-in rate.

Even when turnover does happen in aging neighborhoods, the incoming household does not reliably look like the outgoing one when they moved in. Harvard's Joint Center for Housing Studies documents the parallel aging-in-place dynamic: a rapidly growing 65-and-over population, more of those households carrying mortgage debt into later life, and older owners staying put rather than downsizing. This pattern predates the recent mortgage-rate lock-in (Joint Center for Housing Studies of Harvard University 2023). Industry reporting from RCLCO, the National Association of Realtors, and Redfin consistently finds that the second-generation buyer in a mature suburban neighborhood is older, more likely to be childless than the first-generation buyer was (National Association of Realtors 2024). The neighborhoods turn over. The children do not.

The hypothesis is not untested. Frisco ISD, the fastest-growing district in Texas through the 2010s, is now losing thousands of students and attributes the decline to aging established neighborhoods where fewer young families move in even as older residents stay put (KERA News 2025). Chapel Hill-Carrboro in North Carolina has lost 22 percent of its elementary enrollment over the past decade (from 5,501 students in 2015-16 to 4,294 in 2025-26) against a 17 percent drop in service-area births over the same window (Dollar and Dick 2026; WRAL News 2024). Boulder Valley, which did relatively little building over the last decade, has lost roughly 3,600 students since 2017 and projects a further 1,700-student decline over the next five years (Boulder Valley School District 2024a; Boulder Reporting Lab 2026).

Olathe's own data is consistent with the national pattern. At three illustrative subdivisions (Regency Place, Estates of Ashton, and Brookfield), the elementary-student-per-home ratio fell from 0.65 to 0.78 in 2004 to 0.22 to 0.35 in 2025, a drop of 0.33 to 0.43 students per home over twenty-one years. Turnover occurred in those neighborhoods over that window, and yields still fell by roughly half. The forecasting method recommended in Chapter 3 treats this decline as a structural feature of the aging housing stock — not a temporary condition that new turnover will reverse.

Residential Development

New residential construction is the most volatile of the flows that move enrollment, and in the short run the most forecastable. Every new unit in a district's service area is a potential future classroom seat. The composition of the unit (single-family, townhome, apartment) and the attendance area it lands in together determine how many students enter, when, and where.

In calendar year 2025, area cities permitted 454 new residential units inside the Olathe service area, concentrated in a handful of elementary attendance areas. Eight elementaries had at least ten permits in their attendance areas, and three each had more than sixty. That activity sits inside a longer trend: total annual permitted units in the service area fell from 2,350 in 2001 to 533 in 2024, a 77 percent decline. Single-family permits fell from 1,400 to 321 (also down 77 percent) and five-plus-unit apartment-building permits fell from 766 to 68 (down 91 percent). The district's pipeline for adding family-scale housing (the type that reliably produces school-age children) has contracted most.

The distribution matters as much as the total. Chapter 3′s student-yield / pipeline method (§3.3.2) treats each permitted unit as a probabilistic source of students, with different yield factors by unit type and attendance area. When new construction is concentrated in a few elementaries, those schools can see sharp grade-specific pulses even in a district that is declining overall, a within-school distributional pattern that Chapter 4 (§4.4) takes up directly.

Enrollment

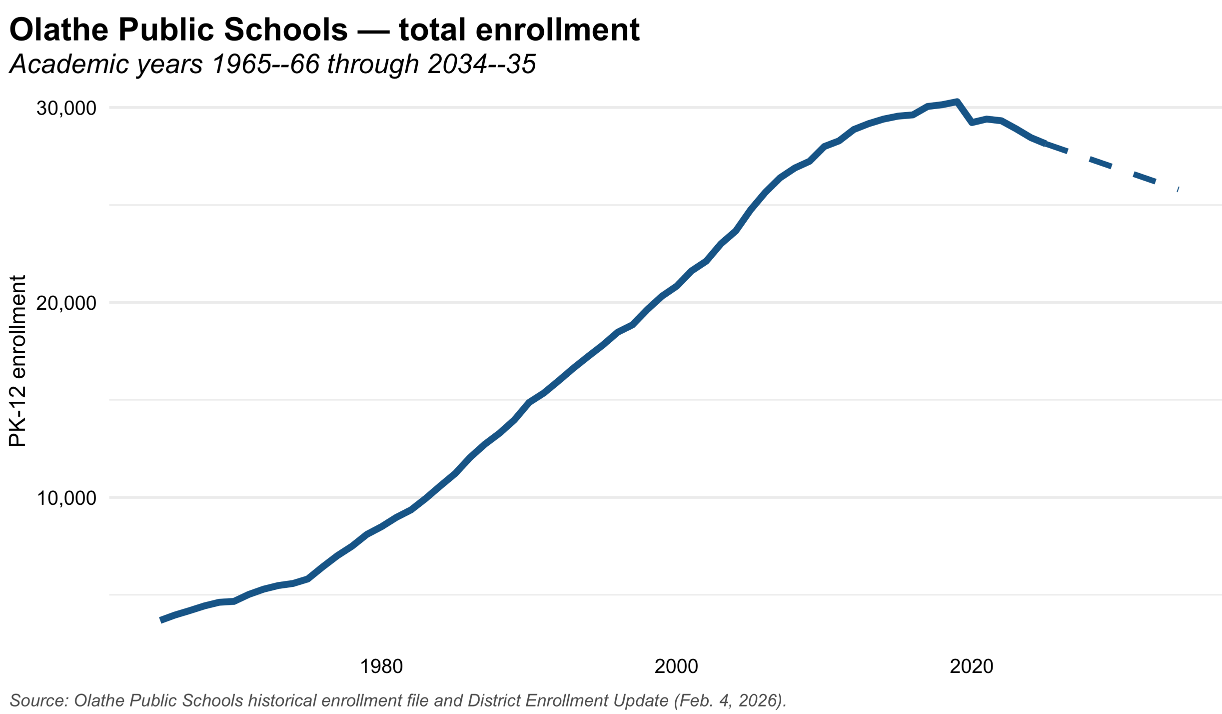


Figure 5: F-05. Total PK-12 enrollment, Olathe Public Schools, 1965-66 through 2034-35. Dashed segment is the district's nine-year projection.

The long enrollment record tracks the district from 3,687 students in 1965-66 to a peak of 30,299 in 2019-20, an 8.2-fold expansion over five decades, before turning down. The 2025-26 headcount of 28,140 sits 2,159 students below that peak, and the district's nine-year projection carries the total to 25,792 by 2034. The reason for the continual decline is that the composition of grade-level cohorts is changing underneath the total even when the total line bends only gradually. The grade-specific view below is where Chapter 3′s cohort-based methods do their work.

The total-line behavior shown in F-05 is produced by the flows described above: thinning resident births relative to the growing working-age (and child-bearing age) cohort, net migration pressures that now run more on international than domestic moves, aging-in-place that has lowered student yields in established subdivisions by roughly half, and a sharp contraction in new residential permitting. Each flow has its own section in this chapter because each has a distinct data source, failure mode, and best-practice forecasting treatment. The direction of travel is consistent with national K-12 enrollment projections over the same horizon (National Center for Education Statistics 2024b) and with longer-range high-school-graduate projections through 2041 (WICHE, Western Interstate Commission for Higher Education 2024).

Counterweighting those flows, the special-education share and the multilingual-learner share have each grown faster than the district total. Special-education enrollment (excluding gifted and speech-only services) increased roughly 27 percent over a recent ten-year window in which total enrollment fell about 2 percent, and the multilingual-learner count reached 6,295 in 2025-26 (up from 5,343 in 2019-20), with 1,837 students having three or fewer years of U.S. education.

One further dynamic is important for reading the near-term series. The district's recent facility planning has already executed one building closure and repurposing (Westview Elementary) together with a linked Rolling Ridge attendance-area adjustment, moving approximately 128 students. That action is visible as a small step in the per-school series rather than in the district total, because closures that are paired with boundary redistribution preserve the aggregate while changing where students are housed. Readers should expect more such steps as the district works through the capital planning described in Chapter 5.

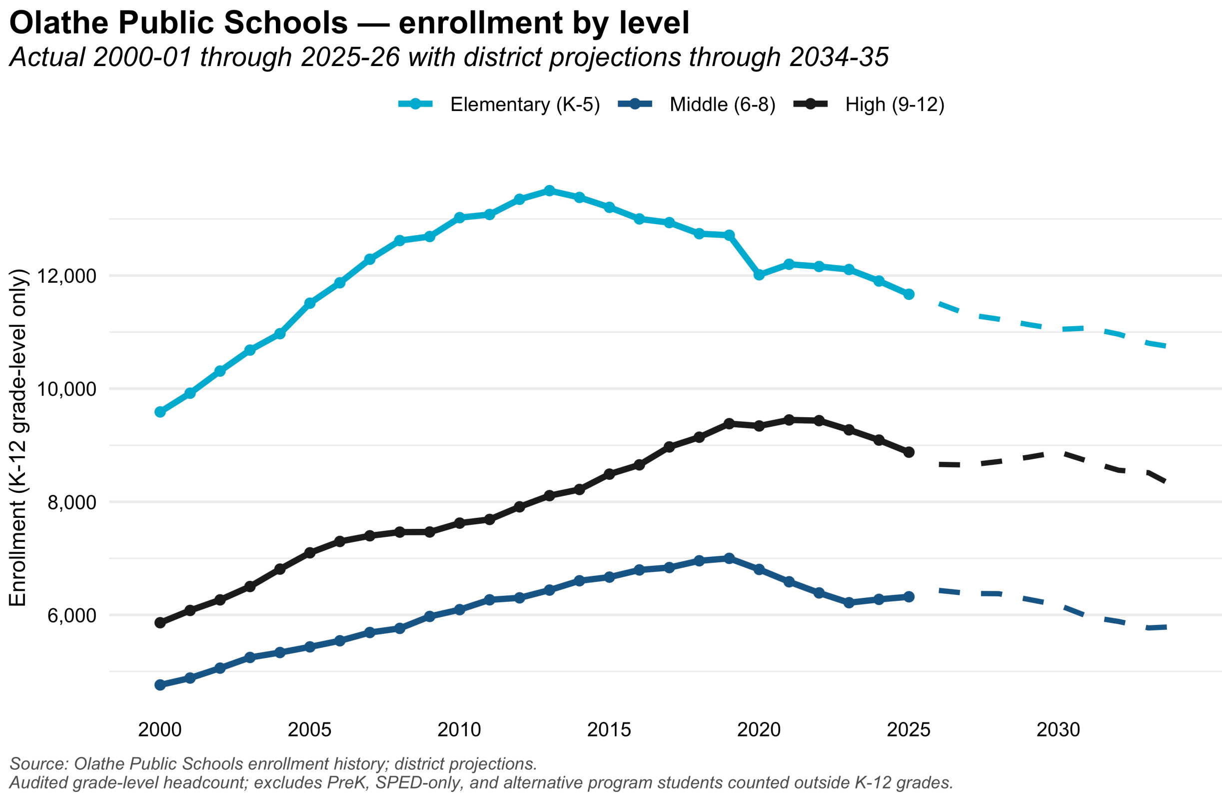


Figure 6: F-06. Enrollment by grade band, Olathe Public Schools, 2000-01 through 2034-35. Dashed lines show district projections.

The grade-band view shows the decline moving through the district in sequence rather than all at once. The Elementary (K-5) line turns down first, reflecting the thinner recent entering-K cohorts. The Middle (6-8) line bends five to six years later, and the High (9-12) line bends another three to four years after that, as the smaller elementary cohorts age up through the system. Each band's projected dashed trajectory in the district's current forecast preserves that lag structure. The direct implication for capacity planning is that the elementary footprint faces pressure first and the secondary footprint faces it on a delayed schedule, a sequencing the next section takes up directly.

Capacity And Utilization

The enrollment trends above take on operational meaning only when they are read against the district's building capacity. This section introduces that comparison using Olathe's **functional capacity** — the number of students each building can serve given its current room inventory and class-size guidelines. Chapter 4 discusses the definition and measurement of functional capacity in detail, alongside the other capacity measures (design capacity, staffing capacity) that districts use; here, we use it only to translate enrollment projections into a utilization picture that the reader can see at the school level.

Utilization is defined throughout this section as projected enrollment divided by functional capacity. The color thresholds follow a standard four-tier convention: buildings above 100 percent of functional capacity (orange) are over-utilized, those between 85 and 100 percent (green) are well-utilized, those between 75 and 85 percent (yellow) are underutilized but within a reasonable operating range, and those below 75 percent (red) face significant underutilization. Enrollment projections are drawn from the district's own ten-year enrollment model; functional capacity values are drawn from the district's Alternative Capacity Worksheet. Both sources are described in Chapter 5.

Functional Capacity By School

The tables below list the functional capacity assigned to each operating school in Olathe's Alternative Capacity Worksheet, alongside 2025-26 enrollment for reference. Functional capacity reflects the number of students each building can accommodate under the district's current room-inventory and class-size guidelines; Chapter 4 defines the measure precisely and Chapter 5 discusses how Olathe calculates it. The values are treated as fixed across the forecast horizon (the district does not currently project capacity changes forward), which means every utilization figure in this section divides a changing enrollment numerator by a constant capacity denominator. Capacity values are presented at the elementary, middle, and high levels in turn.

Table 2: T-02. Elementary functional capacity and current enrollment, Olathe Public Schools, 2025-26.

Elementary Functional Capacity By School

2025-26 enrollment and functional capacity

	School	2025-26 Enrollment	Functional Capacity	Utilization
	Arbor Creek	334	642	52.0%
	Bentwood	345	568	60.7%
	Black Bob	413	542	76.2%
	Briarwood	304	568	53.5%
	Brougham	303	466	65.0%
	Canyon Creek	444	594	74.7%
	Cedar Creek	346	616	56.2%
	Central	236	462	51.1%
	Clearwater Creek	521	694	75.1%
	Countryside	335	616	54.4%
	Fairview	248	442	56.1%
	Forest View	394	696	56.6%
	Green Springs	217	514	42.2%
	Havencroft	248	462	53.7%
	Heatherstone	325	672	48.4%
	Heritage	283	466	60.7%
	Indian Creek	342	488	70.1%
	Madison Place	391	670	58.4%
	Mahaffie	460	596	77.2%
	Manchester Park	601	770	78.1%
	Meadow Lane	337	668	50.4%
	Millbrooke	364	644	56.5%
	Northview	197	462	42.6%
	Pleasant Ridge	289	542	53.3%
	Prairie Center	337	514	65.6%
	Ravenwood	419	642	65.3%
	Regency Place	436	642	67.9%
	Ridgeview	251	444	56.5%
	Rolling Ridge	482	544	88.6%
	Scarborough	277	490	56.5%
	Sunnyside	298	720	41.4%
	Tomahawk	361	468	77.1%
	Walnut Grove	402	568	70.8%
	Washington	326	540	60.4%
	Woodland	337	642	52.5%
Total	—	12,203	20,074	—

Data from: Demographic Analytics Advsiors;

Source: Olathe Public Schools Alternative Capacity Worksheet and enrollment model. Rolling Ridge's row reflects the consolidated attendance area following Westview Elementary's 2026-27 closure.

Table 3: T-03. Middle school functional capacity and current enrollment, Olathe Public Schools, 2025-26.

Middle Functional Capacity By School

2025-26 enrollment and functional capacity

	School	2025-26 Enrollment	Functional Capacity	Utilization
	California Trail	595	964	61.7%
	Chisholm Trail	581	959	60.6%
	Frontier Trail	700	1,024	68.4%
	Indian Trail	582	849	68.6%
	Mission Trail	668	943	70.8%
	Oregon Trail	623	820	76.0%
	Pioneer Trail	640	882	72.6%
	Prairie Trail	737	957	77.0%
	Santa Fe Trail	629	864	72.8%
	Summit Trail	578	889	65.0%
Total	—	6,333	9,151	—

Data from: Demographic Analytics Advsiors;

Source: Olathe Public Schools Alternative Capacity Worksheet and enrollment model.

Table 4: T-04. High school functional capacity and current enrollment, Olathe Public Schools, 2025-26.

High Functional Capacity By School

2025-26 enrollment and functional capacity

	School	2025-26 Enrollment	Functional Capacity	Utilization
	Olathe East	1,806	2,304	78.4%
	Olathe North	1,941	2,320	83.7%
	Olathe Northwest	1,938	2,013	96.3%
	Olathe South	1,741	2,224	78.3%
	Olathe West	1,533	2,031	75.5%
Total	—	8,959	10,892	—

Data from: Demographic Analytics Advsiors;

Source: Olathe Public Schools Alternative Capacity Worksheet and enrollment model.

The functional capacity values are unevenly distributed across the district. Elementary schools cover the widest range in absolute terms, running from 442 students at Fairview to 770 at Manchester Park, a spread of more than 300 seats between the smallest and largest building. Middle schools cluster more tightly, between 820 and roughly 1,000 seats. High schools, the largest buildings in the district, run from about 2,000 to about 2,300 students per building. Total functional capacity across all 50 operating schools is roughly 40,000 seats — well above current enrollment, and substantially above the district's nine-year projection of about 25,800. The capacity surplus is the structural fact that drives every utilization number in the rest of this section.

Utilization By Level

The first cut at utilization aggregates enrollment and functional capacity to the district's three school levels. The table below presents the level-total ratio for each year of the district's ten-year forecast horizon.

Table 5: T-05. Utilization by school level, Olathe Public Schools, 2025-26 through 2034-35.

Utilization By School Level

Enrollment as a percent of functional capacity

Level	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35
Elementary	60.1%	60.3%	59.5%	59.1%	58.7%	58.4%	58.5%	58.0%	57.2%	56.7%
Middle	69.2%	70.2%	70.0%	70.4%	69.4%	68.4%	66.1%	65.4%	64.2%	64.5%
High	82.3%	80.3%	80.9%	81.5%	82.5%	83.5%	82.3%	81.2%	80.9%	78.2%

Data from: Demographic Analytics Advsiors;

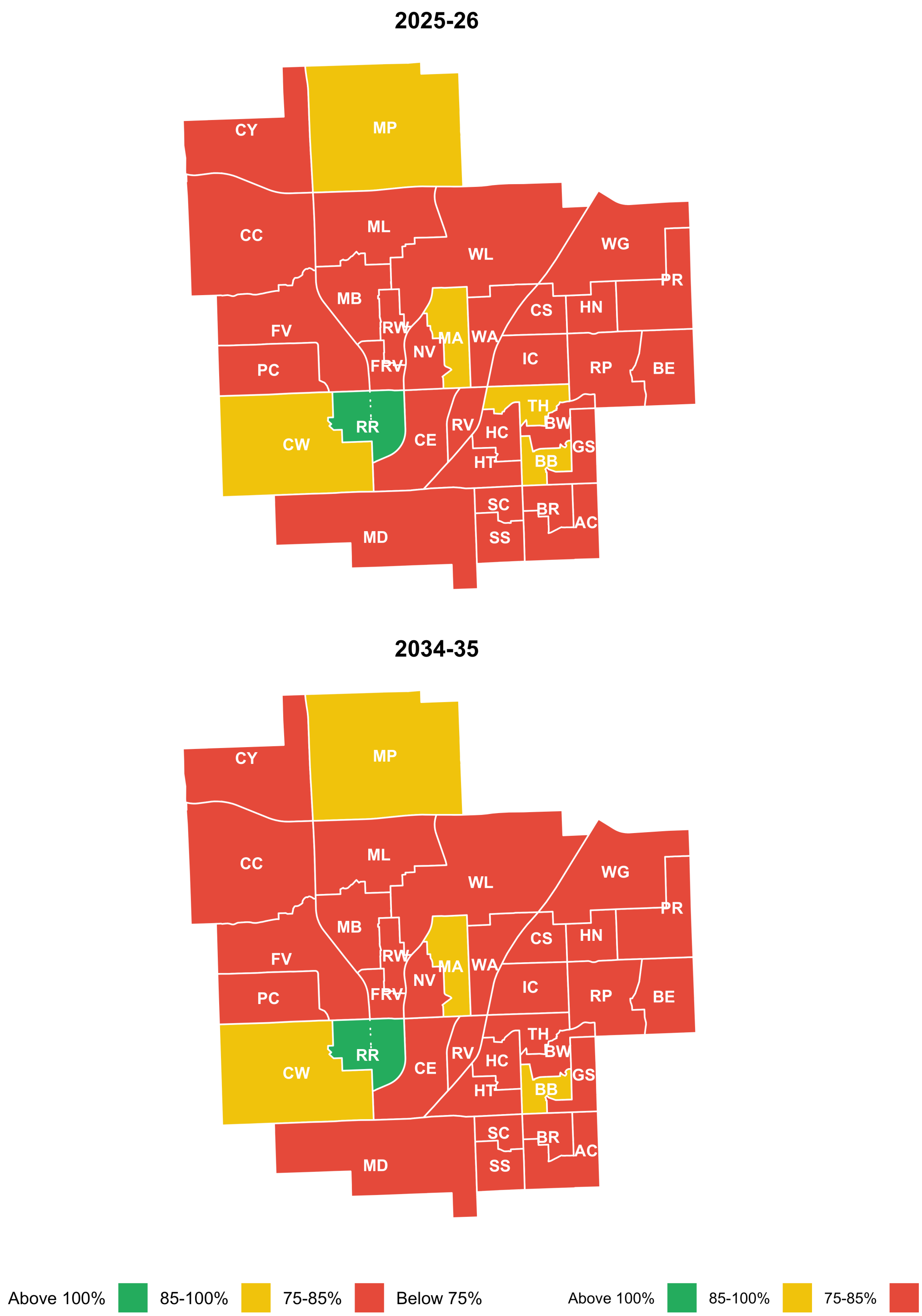
Source: Olathe Public Schools enrollment model and Alternative Capacity Worksheet.

At the district level, all three school levels currently operate well below 100 percent of functional capacity. Elementary utilization sits at roughly 60 percent, middle at 69 percent, and high at 82 percent. The high school level sits highest because the larger cohorts from the district's enrollment peak have not yet fully aged out of the upper grades; the elementary level sits lowest because the thinning entering-K cohorts have already worked through several grades there. Over the ten-year forecast horizon, utilization declines at every level as enrollment continues to fall against a fixed building stock: elementary utilization drops toward 57 percent, middle toward 64 percent, and high toward 78 percent. None of the three levels reaches the 85 percent threshold that conventionally marks well-utilized capacity, and none is projected to reach it within the horizon. The level totals are the simplest possible read of the district's overall position; the next two views unpack these totals.

Utilization By School And Level

The level totals mask wide variation across individual buildings. The three subsections below pair an attendance-area choropleth at the start and end of the forecast horizon with a per-school utilization table. Maps label each attendance area by a short code (defined in the matching table); the table also serves as the per-school detail view, with one row per school and a column for each year of the forecast horizon.

Elementary



'ce: Olathe Public Schools enrollment model, functional capacity, and GIS attendance-area boundaries.

Figure 7: Elementary school utilization by attendance area, 2025-26 (top) and 2034-35 (bottom). Functional capacity basis. Codes match the table below.

Table 6: T-06. Elementary school utilization, 2025-26 through 2034-35.

Elementary Utilization By School And Year

Code matches the map labels; cell color follows the four-tier threshold.

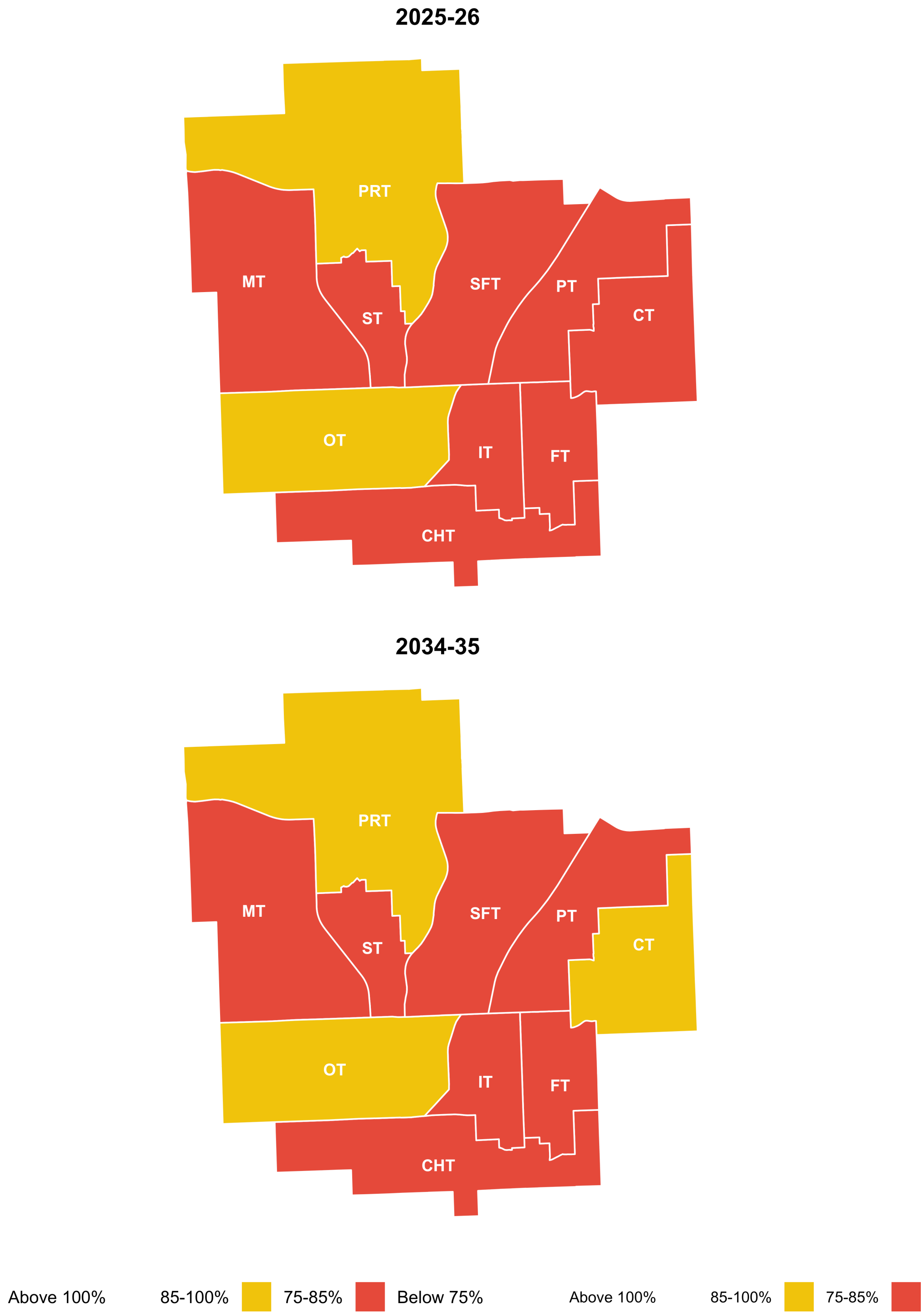
Code	School	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35
AC	Arbor Creek	52%	52%	53%	54%	54%	54%	54%	54%	52%	51%
BE	Bentwood	61%	62%	63%	65%	65%	67%	68%	67%	64%	63%
BB	Black Bob	76%	74%	75%	76%	77%	77%	76%	77%	77%	77%
BW	Briarwood	54%	51%	52%	49%	53%	51%	53%	53%	52%	54%
BR	Brougham	65%	63%	60%	61%	58%	57%	55%	57%	57%	57%
CY	Canyon Creek	75%	73%	74%	72%	76%	78%	77%	76%	73%	70%
CC	Cedar Creek	56%	54%	52%	54%	54%	54%	53%	53%	51%	49%
CE	Central	51%	50%	51%	51%	49%	48%	48%	48%	47%	48%
CW	Clearwater Creek	75%	78%	79%	82%	85%	89%	89%	88%	86%	84%
CS	Countryside	54%	52%	49%	49%	45%	44%	44%	43%	43%	42%
FRV	Fairview	56%	55%	54%	53%	52%	54%	52%	52%	51%	52%
FV	Forest View	57%	56%	57%	53%	51%	49%	51%	50%	49%	47%
GS	Green Springs	42%	42%	40%	39%	39%	38%	39%	39%	38%	39%
HC	Havencroft	54%	54%	53%	52%	53%	54%	55%	55%	55%	56%
HN	Heatherstone	48%	46%	44%	42%	42%	41%	41%	40%	41%	41%
HT	Heritage	61%	60%	62%	63%	62%	63%	62%	62%	61%	61%
IC	Indian Creek	70%	70%	72%	72%	66%	63%	62%	62%	59%	60%
MD	Madison Place	58%	59%	58%	61%	58%	56%	53%	53%	50%	50%
MA	Mahaffie	77%	80%	78%	79%	78%	79%	77%	78%	77%	77%
MP	Manchester Park	78%	79%	77%	78%	78%	79%	80%	79%	79%	77%
ML	Meadow Lane	50%	49%	49%	49%	49%	49%	48%	49%	48%	46%
MB	Millbrooke	57%	55%	53%	51%	51%	49%	51%	50%	50%	50%
NV	Northview	43%	39%	38%	39%	39%	40%	40%	39%	39%	37%
PR	Pleasant Ridge	53%	53%	51%	49%	50%	51%	52%	50%	51%	51%
PC	Prairie Center	66%	61%	59%	59%	56%	53%	52%	49%	50%	48%
RW	Ravenwood	65%	64%	64%	61%	57%	56%	56%	56%	57%	55%
RP	Regency Place	68%	66%	64%	65%	65%	67%	67%	66%	64%	63%
RV	Ridgeview	57%	57%	54%	52%	51%	49%	45%	45%	45%	44%
RR	Rolling Ridge	89%	87%	84%	84%	82%	84%	86%	86%	87%	87%
SC	Scarborough	57%	54%	52%	52%	50%	48%	48%	47%	45%	44%
SS	Sunnyside	41%	43%	42%	40%	40%	38%	39%	38%	37%	38%
TH	Tomahawk	77%	80%	78%	75%	74%	74%	73%	72%	71%	72%
WG	Walnut Grove	71%	70%	67%	65%	64%	63%	62%	62%	60%	60%
WA	Washington	60%	62%	59%	59%	59%	56%	59%	59%	60%	59%
WL	Woodland	52%	55%	59%	61%	64%	64%	66%	67%	67%	67%

Data from: Demographic Analytics Advsiors;

Source: Olathe Public Schools enrollment model and Alternative Capacity Worksheet. Rolling Ridge's attendance area includes the former Westview Elementary boundary; Westview closed at the end of 2025-26 and its students were redistricted to Rolling Ridge.

The elementary maps show the scale of the underutilization most starkly. In 2025-26 the vast majority of elementary attendance areas are already red (below 75 percent), with a handful in the yellow band. By 2034-35, nearly every elementary attendance area sits deep in the red tier, reflecting the grade-band enrollment curve in F-06 above. The table makes the within-tier spread visible: some red-band schools sit close to 70 percent (a manageable cushion for program growth or boundary absorption), while others sit below 50 percent (a level at which the per-pupil cost of maintaining the building becomes difficult to justify).

Middle Schools



rce: Olathe Public Schools enrollment model, functional capacity, and GIS attendance-area boundaries.

Figure 8: Middle school utilization by attendance area, 2025-26 (top) and 2034-35 (bottom). Functional capacity basis.

Table 7: T-07. Middle school utilization, 2025-26 through 2034-35.

Middle Utilization By School And Year

Code matches the map labels; cell color follows the four-tier threshold.

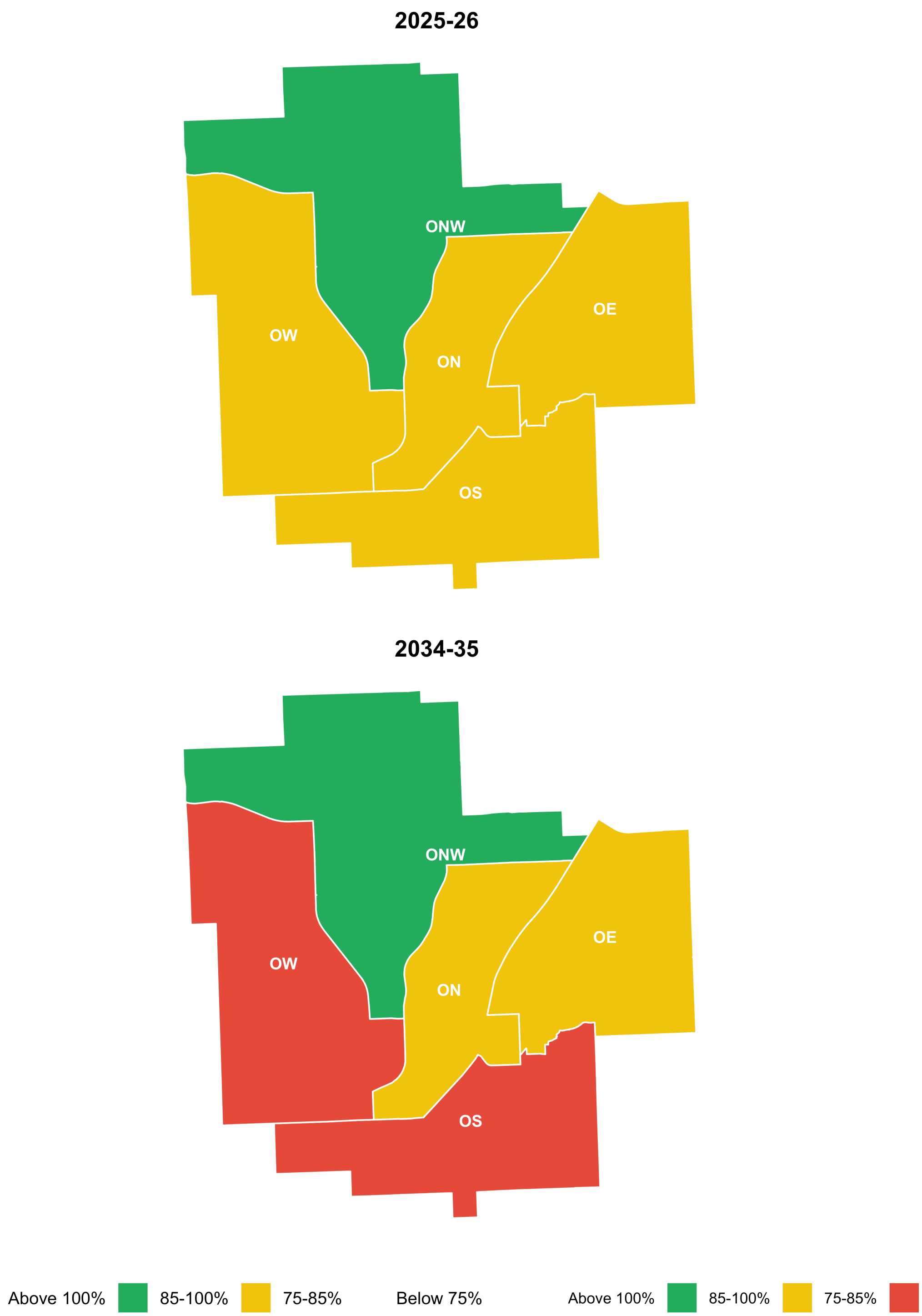
Code	School	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35
CT	California Trail	62%	65%	67%	67%	65%	65%	64%	68%	72%	76%
CHT	Chisholm Trail	61%	59%	56%	58%	56%	54%	50%	50%	50%	52%
FT	Frontier Trail	68%	71%	66%	66%	64%	64%	60%	62%	64%	68%
IT	Indian Trail	69%	72%	75%	77%	75%	73%	72%	65%	59%	55%
MT	Mission Trail	71%	69%	66%	65%	63%	63%	58%	58%	56%	55%
OT	Oregon Trail	76%	76%	78%	77%	77%	74%	76%	78%	79%	79%
PT	Pioneer Trail	73%	77%	78%	79%	80%	76%	75%	67%	62%	57%
PRT	Prairie Trail	77%	82%	83%	82%	81%	84%	84%	86%	82%	82%
SFT	Santa Fe Trail	73%	70%	73%	73%	74%	74%	69%	70%	69%	73%
ST	Summit Trail	65%	63%	60%	61%	60%	59%	55%	52%	50%	50%

Data from: Demographic Analytics Advsiors;

Source: Olathe Public Schools enrollment model and Alternative Capacity Worksheet.

The middle school view tells a similar story on a delayed schedule. Most middle buildings sit in the red tier in 2025-26 and the count rises by the end of the horizon as the smaller elementary cohorts move up. The single yellow-tier middle school in 2025-26 still trends downward over the next ten years, consistent with the level-total decline shown above.

High Schools



ce: Olathe Public Schools enrollment model, functional capacity, and GIS attendance-area boundaries.

Figure 9: High school utilization by attendance area, 2025-26 (top) and 2034-35 (bottom). Functional capacity basis.

Table 8: T-08. High school utilization, 2025-26 through 2034-35.

High Utilization By School And Year

Code matches the map labels; cell color follows the four-tier threshold.

Code	School	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35
OE	Olathe East	78%	74%	76%	78%	81%	83%	83%	81%	78%	76%
ON	Olathe North	84%	81%	80%	79%	82%	84%	84%	85%	84%	81%
ONW	Olathe Northwest	96%	97%	98%	98%	99%	102%	100%	100%	100%	95%
OS	Olathe South	78%	79%	76%	78%	76%	74%	72%	70%	70%	68%
OW	Olathe West	75%	73%	74%	75%	75%	76%	74%	71%	73%	71%

Data from: Demographic Analytics Advsiors;

Source: Olathe Public Schools enrollment model and Alternative Capacity Worksheet.

The high school maps show the most within-level variation: utilization levels are closer to the yellow and green thresholds because the larger recent cohorts are still working through the upper grades. Across all three levels, the spatial pattern is uneven: some attendance areas are projected to remain relatively well-utilized even as the district average declines.

Peer Districts

Selecting a peer set is one of the most important steps in any best-practices analysis. The conclusions a paper like this one can support depend directly on the districts it is being compared against.

This paper uses two peer panels: a **Kansas City metropolitan peer set** (KC-01 through KC-05, selected on proximity, size, and shared labor market) and a **national exemplar set** (NAT-01 through NAT-05, selected because each district publishes planning materials that illustrate a specific practice in Chapters 3 or 4). The peer set is listed in Appendix C, with a short rationale for each inclusion.

Table 9: T-09. Peer districts used as comparators throughout this paper.

Peer districts

Code	District	State	Enrollment	Role
KC-01	Blue Valley USD 229	KS	~22,000	KC-metro peer
KC-02	Shawnee Mission USD 512	KS	~26,000	KC-metro peer
KC-03	Lee's Summit R-7	MO	~18,500	KC-metro peer
KC-04	North Kansas City Schools	MO	~21,800	KC-metro peer
KC-05	Park Hill SD	MO	~11,500	KC-metro peer
NAT-01	Wake County PSS	NC	~161,000	National exemplar
NAT-02	Frisco ISD	TX	~68,000	National exemplar
NAT-03	Douglas County SD	CO	~61,500	National exemplar
NAT-04	Boulder Valley SD	CO	~29,000	National exemplar / F-09 toy district
NAT-05	Loudoun County PS	VA	~82,000	Reference only

KC-metro peers anchor the Kansas City comparison; national exemplars illustrate specific practices referenced in Chapters 3-4.

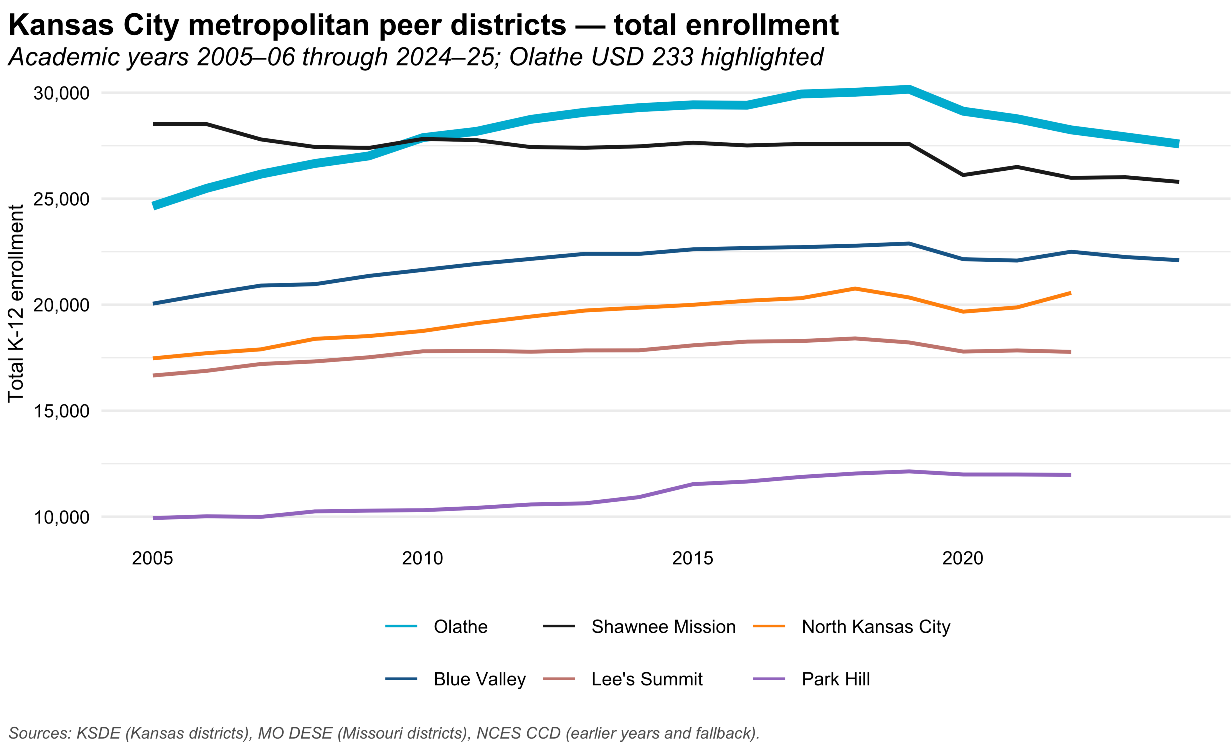


Figure 10: F-07. Total K-12 enrollment, Olathe and its Kansas City metropolitan peer districts, back to the earliest year each district reports in the combined state / NCES panel. Olathe (USD 233) shown bold; remaining KC-metro peers shown for context. State enrollment system (KSDE, MO DESE) where available; NCES CCD fills the earlier years and any gaps.

The KC-metro peer set is not uniform. Each district has its own enrollment trajectory over the last decade, driven by differences in residential-development pipelines, in-migration profiles, and housing-stock age. The figure lets the reader see Olathe's line in context, whether the recent softening is a local phenomenon or a shared metro pattern. Here we see that generally, Olathe's pattern of recent decline is not unique. It is happening elsewhere. Chapter 3′s peer-practice survey (§3.7) returns to this set of districts and describes how each one approaches the forecasting problem behind the trajectory shown here.

Chapter 3. Enrollment Forecasting

What A Forecast Is, And Is Not

Before using a forecast in any form of decision making, it is important to understand what it is and what it is not. A forecast is a tool. It can be used in proper ways, and it can be used in poor ways. There are also well constructed forecasts, and poorly constructed ones, just as there are fantastic tools and poor ones. As you are thinking about a forecast you should always be thinking: Is this the right tool for the job? And, if so, do I have a high quality tool, or a lower quality tool?

Our goal as practitioners is always to create the best enrollment forecast possible given the evidence provided. This means merging several specific things to come to the best conclusion possible. Even in the absolute best case, this does not mean that the forecast is going to tell us, to the exact student, what enrollment is going to be in 2035. These are very useful tools if they are contextualized, tested, and used strategically in combination with other diagnostic and planning tools. They become much more useful if they are updated on a regular cadence with new information and are based on best practices.

A forecast is an analyst's best estimate, conditional on a set of stated assumptions, of how many students a district will enroll in each future year. It is not a target the district is committing to reach. It is not a policy decision about what the district would like to happen. It is a measurement of likely conditions, and its usefulness depends on being honest about the uncertainty around that measurement.

Three practical consequences follow. First, the forecast should state its assumptions, not hide them. Readers should be able to see what changes in housing, births, or migration would make the forecast wrong. Second, if possible, the forecast should present a range, not only a central line. A single number without uncertainty is less useful than a band that the district can plan against. Third, the forecast should be revisited as the actual data come in. A method that produces the same projection year after year even as the inputs change is not doing the work.

Data Requirements

What do we need to create a solid forecast? A forecast cannot be better than its inputs. The data requirements for a credible district-level enrollment forecast are modest in count but demanding in quality.

1. **Historical enrollment by grade and school**, reaching back at least ten years and ideally twenty, disaggregated where available by relevant subgroup (special education, multilingual learners, free/reduced-price meals, students attending out-of-district, and students attending out of their resident attendance zone). Grade-level detail is what makes cohort-based methods possible. School-level detail is what makes attendance-area forecasts possible. Subgroup detail is what makes program-level planning and the knock-on staffing decisions possible.
2. **Live births by mother's county of residence and year**, reaching back at least ten years so that several actual kindergarten class's cohort history is visible. School-district-level births are best

when available, because resident births within the district boundary are the relevant denominator for kindergarten entry.

3. **Age-specific population estimates for the district's service area**, typically from the U.S. Census Bureau's SAIPE, Population Estimates Program, or ACS (5-year) tabulations, aggregated to district boundaries.
4. **Migration data**, covering domestic and international inflows to and outflows from the service area, as described in §2.4.
5. **Data on housing-turnover and aging-in-place dynamics**, covering the yield behavior of the existing housing stock as described in §2.5.
6. **Housing-pipeline information**, covering units permitted, under construction, and likely to deliver over the forecast horizon.
7. **Private-school, charter, and homeschool enrollment in the service area**, to track market-share leakage. These data are not uniformly available across states. Where they are not, a documented proxy (for example, state-level homeschool registrations scaled to the service area, or a national private-school-share figure applied to the local age-eligible population) is better than ignoring the category.

No method listed below works around weaknesses in these inputs. A district with a strong cohort-survival pipeline and weak housing data will miss growth in new subdivisions. A district with a strong housing model and weak birth data will miss kindergarten shocks.

Forecasting Methods

Cohort-Survival (Grade-Progression Ratio)

Cohort-Survival (also known as Grade-Progression Ratio or GPR) forecasts are the most widely used method in the field (Smith et al. 2013; J. S. Siegel, D. A. Swanson 2004). For each grade *g* and year *t*, compute a grade-progression ratio (GPR) as the ratio of grade *g+1* enrollment in year *t+1* to grade *g* enrollment in year *t*. Apply a smoothed multi-year average of these ratios (typically three to five years, trimmed) to roll the most recent actual cohort forward (Cochran 1970). Kindergarten entry is handled separately, usually as a ratio of entering-K enrollment to lagged births.

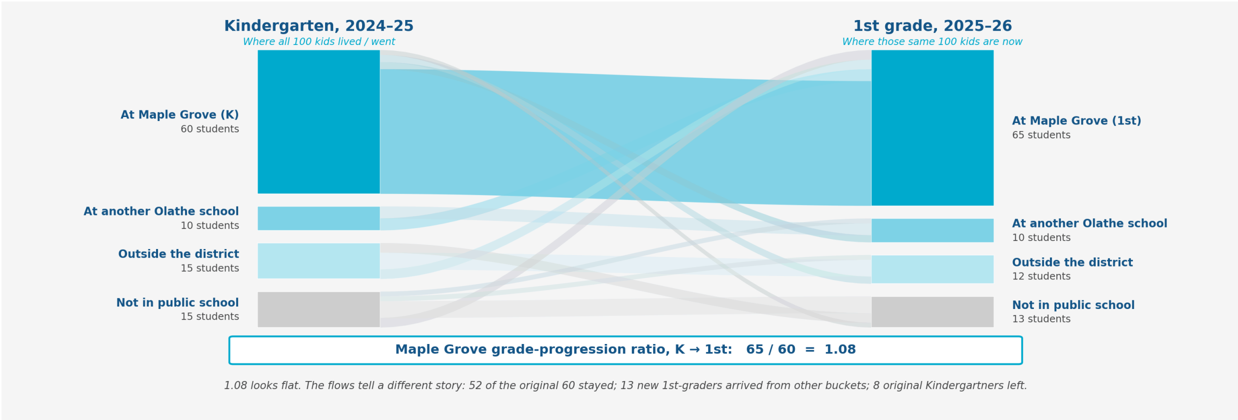


Figure 11: F-08. What a grade-progression ratio actually captures. Illustrative one-school, one-year-pair flows from Kindergarten 2024-25 into 1st grade 2025-26 across four buckets: stayed at the school, transferred to another in-district school, moved outside the district, and left for a non-public option. The headline ratio (65 / 60 = 1.08) is mechanically a small increase, but the underlying flows show 52 of the original 60 stayed, 13 new 1st-graders arrived from other buckets, and 8 of the original Kindergartners left. Bucket sizes are stylized for arithmetic clarity; real attendance areas are larger and noisier.

The figure above shows how these flows can work for one cohort of students in one school, moving from Kindergarten to first grade.

Strengths: simple, transparent, demographically interpretable, minimal data requirements beyond enrollment and births. Weaknesses: assumes the last few years of progression behavior will continue. Cannot represent shocks (new subdivisions, boundary changes, pandemic-era learning disruptions) without analyst override.

In practice, medium and large districts almost never run the pure textbook form of the Cohort-Survival method. It really would only work on a district with a very stable population (either growing, holding steady, or declining at a constant rate). A common in-house variant, which we label *modified* cohort-survival, layers two adjustments on top of the GPR backbone. The first is a **permit modifier** that adjusts entering-K and lower-elementary grades when recent residential building activity in an attendance area is sharply above or below the trailing baseline. The second is an **in-year migration allowance** applied after the mechanical roll-forward, recognizing that the audited late-September count picks up mid-summer moves that happen after the district's schedule is built in late spring. Both adjustments are transparent line items in the method: the GPR roll-forward produces an audit trail, and the adjustment line items can be shown, reviewed, and revised year over year. Olathe's current in-house practice is a good example of this.

Student-Yield / Pipeline Methods

Student Yield methods are a housing-centric approach: count existing units by type and neighborhood, multiply by an observed student-yield rate per unit, and add a pipeline component for units expected to deliver over the forecast horizon (DC Office of the State Superintendent of Education 2023; UK Department for Education 2023). Yields are typically estimated from address-matched student records against a parcel or housing-unit file, with separate yield factors for single-family detached, townhome, multifamily, and subsidized housing units where the district's student mix by housing type differs materially.

Strengths: directly models where growth comes from, integrates with land-use and capital-planning workflows, disaggregates easily to attendance areas. Weaknesses: yield rates drift as neighborhoods age and as housing-price and rental markets shift. Small subdivisions produce noisy estimates, and the method says little about grade-level cohort behavior on its own.

Pure student-yield methods are rarely used as a district's primary forecast. The methodology is standard in real-estate and housing-pipeline consulting, where the unit of analysis is the housing unit rather than the cohort, but districts whose planning questions are framed around grade-level cohort behavior find the housing-only view insufficient on its own. That gap motivates the hybrid frame described next, which pairs the student-yield view of spatial allocation with a cohort backbone on the district total and grade structure.

Hybrid Methods

Hybrid methods are generally the best-practice for medium and large districts (Smith et al. 2013). Multiple hybrid approaches exist in practice, each pairing a cohort backbone with a spatial-allocation overlay in a different way. The most widely documented variant, the *subdivision-yield hybrid*, uses a cohort-survival backbone for the district total and grade structure and a student-yield overlay that reallocates growth to specific attendance areas based on the housing pipeline.

A second variant, the *new-student-yield-at-school-by-grade hybrid*, estimates yields at the school-by-grade level directly from address-matched historical student records and applies those yields to the pipeline of new units in each school's attendance area. That variant produces a grade-level pulse forecast at each building that can be added to Cohort-Survival methods, which is particularly useful for capacity-planning conversations where the decision-relevant quantity is how many second-grade seats a specific school will need in a specific year. A third, less formal variant substitutes analyst-set manual overlays for a parametric yield layer. That approach can work for a small district but does not scale, because the overlay is not auditable once the analyst who set it moves on. Done carefully, any of the parametric hybrid variants reconciles to the cohort-survival total while preserving the spatial detail the yield component provides.

Hybrid methods are also the natural frame for modeling the knock-on effects of district-level decisions on enrollment. The pull factor from a new school drawing students across existing attendance boundaries, the redistribution effect of a school closure on neighboring enrollments, and the grade-level consequences of an attendance-area boundary change can each be represented as adjustments to the spatial-allocation overlay rather than as manual overrides to the output. Treating these as explicit inputs keeps the forecast auditable through the decision making process and lets the same model run test alternative governance decisions before the Board makes them.

Strengths: couples grade-level cohort discipline with spatial detail, disaggregates to the decision-relevant geography, supports scenario analysis of development and governance decisions, and produces outputs that map naturally to both capital planning and boundary-review workflows. Weaknesses: more moving parts to document than either component method alone, reconciliation between the backbone and the overlay can mask where a disagreement actually comes from if the analyst is not careful, and the yield-rate drift that complicates the student-yield method applies here too in the overlay layer.

Time-Series-On-GPRs Variants

Another addition to classic Cohort-Survival methods is to treat the grade-progression ratios themselves as time series and project forward with a statistical model (ARIMA, ETS, or state-space) rather than a simple trailing mean (Smith et al. 2013; Baker et al. 2017). This methodology gives a principled treatment of GPR drift and produces probabilistic intervals directly. That is, it is better at predicting enrollment when things are changing in a modelable way, and we can actually forecast the uncertainty around those changes.

This variant is less often used in practice than cohort-survival and hybrid methods, primarily because it requires time-series-modeling comfort that many district planning offices do not maintain in-house, and because the probabilistic intervals it can produce are often harder to communicate to non-technical stakeholders than a baseline-plus-scenario presentation.

Strengths: delivers uncertainty intervals directly from the model rather than from hand-set scenarios, and treats GPR drift as what it is: an ever changing entity. Weaknesses: opaque to non-analysts, can overfit when the GPR history is short, and the intervals it produces are only as good as the stationarity assumption in the underlying time-series model.

Regression On Leading Indicators

A completely different approach is to fit a regression (or other statistical model) of total enrollment (or grade-level enrollment) on lagged births, housing permits, population counts, and other predictors. This method is used most often as a cross-check on a cohort-based primary forecast rather than as a stand-alone method.

This is rarely a district's primary forecast because it does not preserve grade-level cohort structure, and because enrollment is driven by processes (aging-in-place, subdivision yield, migration timing) that leading indicators capture indirectly at best.

Strengths: fast to fit, easy to audit, and useful as triangulation when the cohort method and the regression disagree substantively. Weaknesses: breaks the cohort chain, gives little insight into why a future enrollment is what the model predicts, and regresses away much of the spatial and grade-level detail a district needs for planning.

Structural / Microsimulation

Individual-level simulation of the resident population with transition probabilities for births, deaths, migration, and school enrollment (J. Bongaarts, R. A. Bulatao 2000). Used mostly at the state or metro level, where demographic programs such as the Texas Demographic Center publish ongoing population-projection series that districts draw on as a top-down control (Texas Demographic Center 2024). These methodologies are used much less often in educational contexts.

When they are used, districts rarely run microsimulation themselves. The method is computationally expensive, data-hungry (the full population micro-data it needs rarely reside inside a district IT shop), and difficult to maintain as a recurring analytical product at the district scale. Where the method is valuable to a district, it is typically through an upstream state or metro projection series that feeds a top-down constraint into the district's own cohort forecast. However, together with other Machine Learning and AI approaches, these models will likely be seen more often in the near future.

Strengths: flexible and extensible, can represent policy counterfactuals that cohort methods cannot, and produces population-level demographic detail districts can draw on as context. Weaknesses: rare in district practice because of data and computational requirements, opaque to non-specialists, and the gap between a state- or metro-scale simulation and the specific resident population inside a district's boundary is often wider than the projection uncertainty the method reports.

Below is a table that summarizes each of the methods and highlights their strengths and weaknesses. **As practitioners we most often see either Hybrid models or strict GPR models used by most districts.**

Table 10: T-10. Forecasting methods at a glance.

Enrollment forecasting methods at a glance

Method	Typical horizon	Data need	Handles growth?	Strength	Weakness
Cohort-survival (GPR)	5-10 yr	Low-Med	Poorly	Transparent, interpretable	Assumes recent GPRs continue
Student-yield / pipeline	5-10 yr	Med-High	Well	Spatial detail, ties to housing	Yields drift with market
Hybrid (cohort + yield)	5-10 yr	Med-High	Well	Reconciles totals and subareas	More moving parts to document
Time-series on GPRs	5-10 yr	Med	Moderate	Principled uncertainty intervals	Opaque to non-analysts
Regression on leading indicators	3-5 yr	Med	Moderate	Useful cross-check	Breaks cohort structure
Structural / microsimulation	10-20 yr	Very high	Well	Flexible and extensible	Data-hungry, expensive

Summary table — each method is described in detail in the preceding subsections of §3.3.

Uncertainty And Scenarios

An enrollment forecast is always subject to uncertainty. Births, migration, and housing delivery can each move in directions that a recent historical trend does not anticipate, and the more of that uncertainty a forecast communicates explicitly, the easier it is for the Board and community to read. A common practical starting point is to pair a baseline trajectory with at least one alternative scenario, typically a higher-growth and/or a lower-growth variant bounded by plausible changes in the inputs. A more technically complete alternative is to produce probabilistic intervals from the underlying statistical model rather than hand-set scenario offsets. The tradeoff is that intervals are harder to build and harder to explain to a non-technical audience.

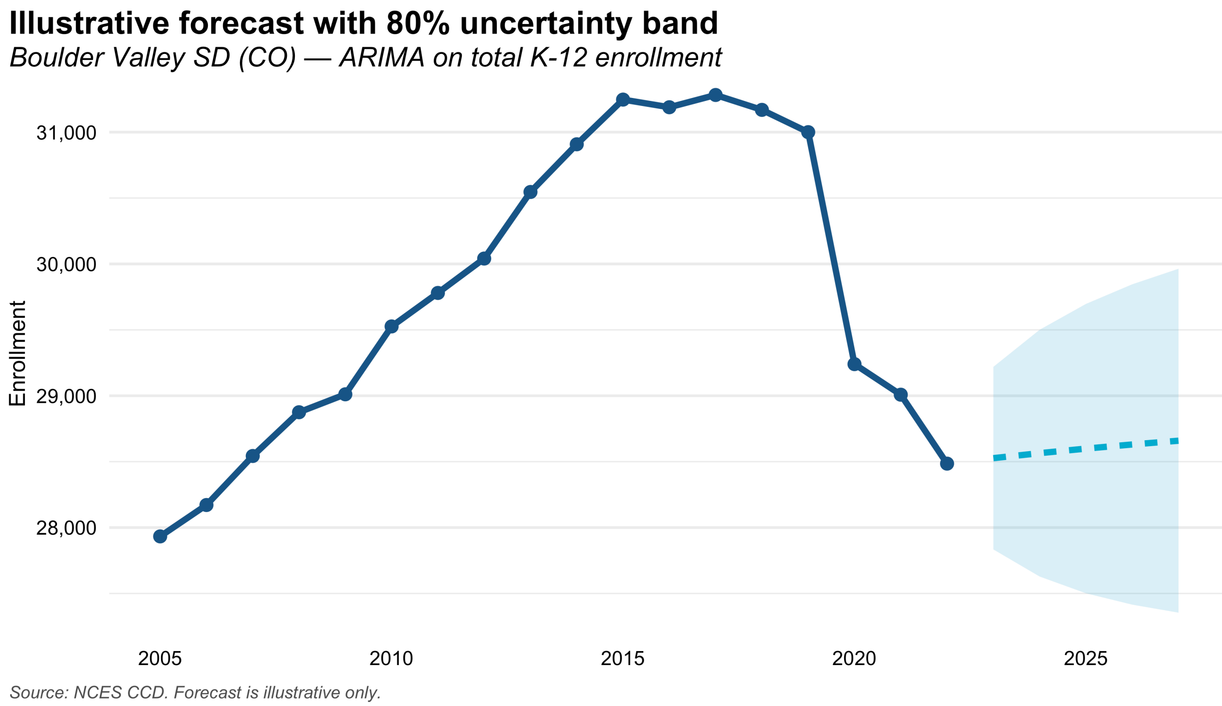


Figure 12: F-09. Illustrative five-year enrollment forecast with uncertainty band, Boulder Valley SD.

The above figure is an example of publishing a central line alongside a range, which is a practice that relatively few districts currently follow. Most districts, of all sizes, publish a single central line. This is for practical rather than methodological reasons. Stakeholders who are not statistically trained often read a range as a sign the district is hedging. Probabilistic tooling is non-trivial to build and maintain. And internal traditions around how a forecast is presented to the Board rarely include a range alongside the central line. Districts that do publish a range find that it gives the Board a way to frame a capital-planning or boundary decision as robust to a plausible set of futures, rather than contingent on the single central line being exactly right. The specific form of the range matters less than the act of publishing one. Best practice is to pair the range with the assumptions that would move it, and to re-publish both each time the underlying data update.

For districts whose forecasting apparatus is built on modified cohort-survival rather than on a parametric time-series model, a defensible practical alternative to model-derived intervals is a **two-adjustment** construction. The two adjustments address different sources of uncertainty. They should not be confused with each other or with the grade-progression-ratio calculation the backbone is already doing.

The first is an *in-year migration allowance*: an additive adjustment applied at the end of the mechanical roll-forward that sizes the net enrollment churn throughout the year. The allowance sizes what the mechanical forecast is missing, based on the district's historical record of in-year net moves. In a district with active subdivision turnover or significant mobility, the allowance is not a trivial quantity. It is the difference between a forecast that lines up with the count-day number and one that is systematically off by the typical magnitude of churn.

The second, and often more important, adjustment is an *estimate-accuracy adjustment*, sized from the district's own back-testing record. It translates the district's recent multi-year forecast error into a symmetric band around the central projection to communicate the residual uncertainty in the method itself. Where the migration allowance addresses a known timing gap in the data, the estimate-accuracy adjustment addresses the unknown residual that any forecasting method carries.

Neither adjustment is a substitute for a statistical interval from a parametric time-series model. The probabilistic interpretation is weaker. The adjustments do not automatically widen at longer horizons. But they do make the uncertainty explicit, they are legible to non-analysts, and they are auditable against realized outcomes each year. Olathe computes adjustments and uses them today in its staffing-capacity, boundary adjustment, and open-enrollment calculations rather than pairing them with the cohort-survival backbone. Extending analogous adjustments into the baseline enrollment estimate is a natural next step for a district that already has the inputs in hand. Chapter 5 documents both the current use and the opportunity for Olathe.

Quality Assurance

A forecast deserves the same QA discipline as any other analytical product. The practices we look for are:

1. **Back-testing.** Re-run the current method on data truncated five years ago and compare the resulting projection against what actually happened. Publish the residuals. The evaluation literature is well developed in demographic modeling. Stoto (1983), Smith and Sincich (1992), Swanson et al. (2000), and Tayman et al. (2011) each document approaches for characterizing projection accuracy and the residual distributions a well-run method produces at different horizons. Two complementary regimes are used in practice. The *vintage-vs-actual* approach archives each published projection (a *vintage*) and compares it against the subsequent year's audited enrollment as that year arrives. It tests the whole system, including analyst overrides. Olathe's own vintage-vs-actual record is illustrative of the kind of magnitudes well-run modified cohort-survival can deliver at the district total. A 2021-vintage projection for 2025-26 drifted from audited actuals by roughly 4.9 percent over the five-year horizon, a residual that is within the range one would expect from a method of that class in a district of Olathe's size and growth profile. The *single-year accuracy* approach compares the most recent projection against the most recent audited year and publishes the percentage hit rate by grade level. Olathe's 2024-25 figures (99.2 percent accuracy at the district total, with level accuracy of 94.5 percent for early childhood, 98.7 percent for elementary, 99.9 percent for middle, 99.8 percent for high, and 91.4 percent for alternative) are reported in Chapter 5 and illustrate the order of magnitude a mature in-house operation can reasonably aim for.
2. **Sensitivity analysis.** Show how the forecast changes when key inputs move by plausible amounts. For example, birth counts ±5%, housing pipeline delivery dates ±2 years, student yields ±15%.
3. **Version control.** Each published forecast should be reproducible from the same code and inputs that produced it, with a version stamp.
4. **Override log.** Overrides are not only common, they are often necessary and are themselves a best practice when documented. Any district running modified cohort-survival will have years

where the mechanical ratio produces an implausible result: a known subdivision delivery the GPR does not see, a kindergarten pulse tied to a shift in resident births, a grade-specific anomaly inherited from pandemic-era cohorts. Overriding the mechanical result in those cases is the right call. What distinguishes a well-run forecasting operation from a hand-waved one is not the absence of overrides but whether each override and its rationale are recorded so a future reader can see what was changed and why. A documented override log turns analyst judgment from a hidden step into an auditable input to the forecast.

Using The Forecast

Forecasts are inputs, not outputs. A district enrollment forecast feeds a range of operating and planning decisions, and its usefulness for each depends on whether its spatial granularity, horizon, and uncertainty treatment match what that decision requires.

1. **Capital planning.** How much classroom space the district needs over the bond horizon. The forecast horizon should match the decision horizon. A twenty-year bond program needs a longer-view projection than a five-year facility-refresh plan, which in turn needs a longer view than a next-year boundary adjustment. Understanding these different use cases allows the analyst to optimize their model for the specific use.
2. **Boundary adjustment and consolidation.** Where to redraw attendance areas to reduce over- and under-utilization, and which buildings carry capacity that can be consolidated. This is also the point of connection to the statutory-capacity and open-enrollment discussion in Chapter 4. A district required by state law to post grade-level statutory capacity and that may accept non-resident transfers against it is using the forecast in a second way at the same time, and the boundary work has to reconcile with that posting.
3. **Staffing and service-delivery planning.** How many general-education teachers and support staff to hire, and where to locate them. The general-education headcount is only the start. Service-delivery staffing (special education, multilingual-learner, counseling, and related services) scales on subgroup counts rather than on the district total. In districts where subgroup shares are moving faster than total enrollment, the staffing implication of the forecast for these roles can run in a different direction from the headline trend. A forecast that disaggregates to subgroup cohorts supports this decision. One that does not cannot.
4. **Operating budget and per-pupil revenue.** Most state funding formulas are per-pupil, so the enrollment forecast is also a revenue forecast for the district's operating budget. A district running capital planning off the forecast without running the operating-budget implication is leaving one of the highest-leverage uses of the forecast on the table.
5. **Transportation and bus routing.** Route design, fleet sizing, and tier scheduling are driven directly by the forecast, and the sensitivity is sharp when a boundary change, new school, or closure is in play. This is one of the most commonly under-integrated uses, because transportation planning typically runs on its own annual cycle rather than in a feedback loop with the forecasting operation.
6. **Long-range strategic planning.** Board-level multi-year planning documents (strategic plans, portfolio strategy, equity reviews) run on a longer horizon than the bond cycle and need the forecast as an anchor.

7. **Master scheduling at secondary levels.** Section counts, teacher-load construction, and course-offer decisions at middle and high school are built on forecasted grade-level enrollment one year out. A small percentage error at the grade level shows up directly as either short sections or under-filled sections when the master schedule is set.
8. **Early childhood and Pre-K program sizing.** Demand for district Pre-K seats is typically planned separately from the K-12 program but fed by the same resident-births and migration inputs the K-12 forecast uses. A district that produces a K-12 forecast without also producing a Pre-K sizing read is using the same underlying inputs twice and getting one answer out.

At the end of the day, a forecast is only as useful as the decisions it reaches, and the practice of making it useful is worth as much attention as the method that produced it. Four practices come up repeatedly in districts whose forecasts land well with the Board and the community.

Update cadence. Forecasts should be re-run at least annually where the district has an active boundary, capital, or open-enrollment calendar, and no less often than every three years in steady-state conditions. The cadence should match the pace of decisions the forecast feeds. A forecast re-run on the calendar rather than in response to changes in the inputs can be stale even when it is current.

Stakeholder-versioning. The Board, the administration, and the community often need different presentations of the same forecast. The Board version foregrounds the decisions the forecast supports. The administration version foregrounds operational detail. The community version foregrounds explainability and the connection to lived experience in the district's schools. All three should be traceable to the same underlying model run.

Scenario-display conventions. Where a forecast includes more than a single central line, whether through parametric intervals, baseline-plus-scenarios, or the two-adjustment construction described in §3.4, a consistent visual language for distinguishing scenarios across materials is worth investing in. Color and linetype conventions, a scenario banner naming which scenario the viewer is looking at, and consistent labels across the workbook, the Board deck, and the community presentation prevent the forecast from being mis-read as more certain than it is.

Communicating confidence to non-technical audiences. A stated uncertainty range can be received as rigor or as hedging depending on how it is presented. The practice that tends to land well is to pair the range with the specific assumptions that would move it, and to frame the central line as the best estimate conditional on the inputs rather than as the forecast.

The forecast's usefulness for each decision depends on its spatial granularity, horizon, and uncertainty treatment. Chapter 4 (§4.4) makes the parallel argument for utilization: a single number without trajectory, within-building distribution, and a comparison to nearby schools is not adequate for decision support.

Peer Practice Vignettes

Short vignettes follow for each district in the peer panel. They draw on the district's own published planning materials where available and on news reporting of recent facility decisions where relevant.

Where a practice is noted as exemplary, the rationale is that the practice specifically models what Chapters 3 and 4 describe as the frontier of the field.

Blue Valley (KC-01). Blue Valley's forecast is produced in-house, uses a cohort-survival backbone with a housing-pipeline overlay (permit activity and mortgage-rate context), and runs on a five-year horizon. Its strongest practice is the *operational decision linkage* of its utilization work. Blue Valley uses a documented 75% utilization threshold to gate open-enrollment admissions to individual schools. Schools whose current and projected enrollment both sit below 75% of capacity are open to non-resident transfer applications. Schools at or above that threshold are not. The opening of Wolf Springs Middle School in 2026 was tied to an explicitly published attendance-area redesign. Its weakest practice is documentation. There is no public methodology write-up of the forecasting model, making it hard for a successor analyst or an external reader to audit the parametric choices.

Shawnee Mission (KC-02). Shawnee Mission commissions a ten-year forecast from RSP & Associates using that firm's proprietary Student Forecast Model. It is the most consultant-driven of the KC-metro peers, and its most instructive historical feature is its closure record. Following December 2010 board votes, Mission Valley and Antioch middle schools closed at the end of the 2010-11 school year, and Dorothy Moody Elementary closed at the end of the 2011-12 school year. More recently (2022), projected enrollment declines in three schools below 300 students were addressed via a targeted Briarwood/Tomahawk boundary adjustment rather than consolidation. That is a worked example of rezoning as an alternative to closure. The forecast itself is presented as a single deterministic central line with no published scenario or sensitivity analysis, a documentation-maturity gap this paper flags repeatedly.

Lee's Summit (KC-03). Lee's Summit's 2018-19 Comprehensive Facilities Master Plan is the peer panel's most thoroughly *community-engaged* planning document, mapping learning activities to space types via a three-workshop stakeholder engagement process. The district's 2025 $225M bond emerged from a layered public filtering process that this paper holds up as a model for how facility-planning assumptions can be pressure-tested publicly. Roughly 150 stakeholders on district- and building-level CFMP teams identified $560M in five-year capital needs. The Citizens Advisory Committee then recommended an affordable scope of $311M. The Board placed a $225M no-tax-increase bond on the April 2025 ballot. The forecasting method behind the enrollment numbers that anchor that plan, however, is not publicly documented.

North Kansas City (KC-04). North Kansas City produces its forecast in-house on a ten-year horizon. Specific methodology is not public. The district is visibly growth-constrained: multiple buildings at capacity with 200-300 annual enrollment growth and no boundary changes scheduled. Its 2022 and 2025 bond programs ($140M and $175M respectively) are the primary public evidence of its facility strategy. Like several KC-metro peers, its useful cautionary note for Olathe is how thin the publicly available methodological documentation is even for an actively planning district.

Park Hill (KC-05). Park Hill publishes an annual Demographic Profile & Enrollment Projections document that projects ten-to-twelve years ahead using a *five-model ensemble*. Among the named components are a cohort-survival-plus-kindergarten-pool model and a census-and-student-yield-ratio model. It is the only KC-metro peer producing a forecast range rather than a single central line.

The 2025-26 vintage reports a low of 10,736 students by 2035 from the most conservative model and a high of 11,548 from the most optimistic. Its 2024 redistricting used Woolpert as an outside facility-planning consultant to redraw feeder patterns around the newly opened Angeline Washington Elementary (fall 2025), affecting approximately 1,600 students. The ensemble-forecast practice and the named consultant-led rezoning together make Park Hill the strongest KC-metro peer on methodological rigor. Subgroup-level projections are not public.

Wake County (NAT-01). A national benchmark on *documented cohort-survival-plus-yield at scale* (Wake County Public School System 2024). Wake's ten-year enrollment forecast is produced by Carolina Demography (UNC-Chapel Hill) in partnership with Demographic Analytics Advisors, using a cohort-survival backbone with explicit kindergarten-yield modeling. Rather than treating K-entry as a fixed share of births, the forecast estimates K-yield as a function of births and tracks yield drift. In 2024 that practice detected a ~750-student kindergarten shortfall before it propagated. The district publishes enrollment disaggregated by race/ethnicity, free/reduced-lunch status, ELL, and SWD. The one documentation gap: the forecast remains a single deterministic line with no published uncertainty band.

Frisco (NAT-02). The national benchmark on *housing-pipeline / student-yield forecasting* (Frisco Independent School District 2024). Frisco uses a consultant (Zonda) to produce a ten-year forecast that couples residential construction permits, occupancy timing, and yields by housing type (single-family detached, townhome, multifamily). The district does not appear to publish the forecast as an explicit low/mid/high scenario set, but the housing-pipeline coupling has supported an unusual operational cadence of near-annual boundary adjustments over the district's twenty-one-year growth phase. Frisco's framework is the closest published analog to Olathe's hybrid subdivision-based cohort-progression method. The specific transferable practices are the housing-type-disaggregated yields and the explicit scenario presentation.

Douglas County, CO (NAT-03). The strongest national exemplar for *school-closure process documentation* (Douglas County School District 2024). In February 2025 the Douglas County board adopted Policy FCB, which codifies an explicit list of closure criteria:

- Preservation of student, staff, and community cohorts
- Traffic and safety considerations
- Walkability
- Building quality and limitations
- Program maximization
- Enrollment and financial sustainability
- Accessibility to parks and emergency services

The policy enabled a data-driven evaluation that narrowed to three consolidations: Saddle Ranch to Eldorado, Heritage to Summit View, and Acres Green to Fox Creek. These were approved in April 2025 for 2026-27 implementation. This is the single practice this paper most strongly recommends the Olathe Task Force study.

Boulder Valley (NAT-04). Boulder Valley serves as the example district for Figure F-09 (Boulder Valley School District 2024b). Its forecast uses a cohort-survival method with grade-progression ratios and inputs that include births, new housing, and open-enrollment flows, projecting a roughly 1.5% annual enrollment decline in a district of Olathe's size (~29k). Boulder Valley does *not* publish an uncertainty band. Point estimates have diverged materially from realized enrollment (e.g., 2025 saw ~525 actual decline against a ~264 projection). The district instead manages that uncertainty implicitly through tiered utilization thresholds. Schools below 60% utilization receive a "low-enrollment advisory" and trigger Long Range Advisory Committee review. Schools below 50% become consolidation candidates. Boulder Valley is a useful example district precisely because its forecast shape (a declining point estimate without published intervals) is the shape F-09 would improve upon by adding the 80% band.

Table 11: T-11. Peer district forecasting practices — summary.

Peer forecasting practices

District	Method	Horizon	Uncertainty	Producer
Blue Valley	Cohort-survival + housing pipeline	5-yr	Single line	In-house
Shawnee Mission	Cohort-survival (proprietary SFM)	10-yr	Single line	RSP & Associates
Lee's Summit	Not publicly disclosed	10-yr	Not disclosed	Not disclosed
North Kansas City	Not publicly disclosed	10-yr	Not disclosed	In-house
Park Hill	Cohort-survival + census-yield + household (ensemble)	10-12 yr	Multi-model range	In-house
Wake County	Cohort-survival + explicit K-yield	10-yr	Single line	Carolina Demography + Demographic Analytics Advisors
Frisco	Housing pipeline / student-yield by housing type	10-yr	Low / mid / high scenarios	Zonda (fmr. Templeton)
Douglas County	Cohort-survival + housing pipeline (GIS-integrated)	5-yr	Feeder-area scenarios	In-house (Planning Specialist)
Boulder Valley	Cohort-survival + K-yield	Multi-yr	None published	In-house

Sources: Demographic Analytics Advisors research, drawing on district planning materials and news reporting as cited.

Chapter 4. Capacity And Utilization

As noted in the last chapter, there are many uses of an enrollment forecast. Here we are going to focus on one: The use of enrollment forecasts and capacity measurement on utilization analysis.

Capacity Definitions

“Capacity” is a deceptively simple word. Three distinct definitions dominate the field (Association for Learning Environments (A4LE), formerly CEFPI 2018). Conflating them is the single most common source of facility-planning confusion.

Design capacity is the maximum headcount a building can physically hold under its as-built layout. It is a count of classrooms times the building’s target student-per-classroom ratio, without regard to how classrooms are actually used. Some even simplify this to students per square foot. It is rarely the right number for decision-making.

Functional capacity is the number of students a building can educate under the district’s actual program, staffing, and class-size policies together with the constraints of the built environment each building comes with. It subtracts specialty rooms (self-contained special education, ELL resource, music, art) from general classroom count, applies the district’s target loading to the remaining rooms, and reflects school-level policies (for example, restricting a designated small-group room to certain programs). Functional capacity is almost always below design capacity. The gap between the two is a useful diagnostic. Functional capacity is often the right measure for long term facility planning.

Program capacity is a narrower version still, measuring how many students can be served under a specific program (dual-language immersion, self-contained gifted, a specific career-tech pathway). It is used for program-placement decisions rather than total-building sizing.

A fourth concept, **statutory capacity**, is increasingly imposed on districts by state or their own policies, like the Kansas open-enrollment laws. Where the previous three are facility-planning measures (built around physical space), statutory capacity is typically defined around *staffing*. It is a published number of seats by grade and building, calculated from the actual number of teachers and the state’s class-size policy. In Kansas, the district must publish these numbers each year in compliance with Kansas’s House Bill 2553 (2022 session, effective for the 2024-25 school year). Statutory capacity sits alongside functional and program capacity rather than replacing them. But in Kansas, because it is the number that appears in the open-enrollment posting, it is the most visible capacity number a district publishes and deserves explicit treatment in the district’s documentation. Chapter 5 returns to how Olathe handles all three.

Practice Recommendation: districts should publish functional capacity as the primary planning number, design capacity as a reference, program capacity only where it informs a specific decision, and statutory capacity wherever required by law and for shorter-term planning where staffing matters just as much as building capacity, and should make explicit how the four numbers relate to one another so that readers do not conflate them.

Table 12 summarizes the four measures on the dimensions that distinguish them.

Table 12: T-12. Four capacity measures compared on what they count, the question they answer, their primary input, and the decision each informs.

Capacity measures compared

Measure	What it counts	Question it answers	Primary input	Decision it informs
Design capacity	Seats — all general classrooms loaded at the building's as-built target class size.	How many students could this building hold if every classroom were used as a general classroom at target loading?	As-built room count and the building's original target loading.	Reference only; a ceiling against which functional capacity is read.
Functional capacity	Seats — general classrooms only, loaded at the district's current target class size, with specialty, pullout, and self-contained-SpEd rooms removed.	How many students can this building educate under the district's current program and class-size policy?	Room inventory with type, size, and current assignment, plus district class-size policy.	Primary facility-planning number. Drives boundary reviews, portable placement, and new-school sizing.
Program capacity	Seats in a specific program (dual-language, self-contained gifted, a CTE pathway) within the building.	How many students can this building serve in a specific program, given the rooms and staff allocated to it?	Program-specific room count and staffing; program-specific class-size policy.	Program placement and the sizing of program-specific cohorts.
Statutory capacity	Seats by grade at each building, determined under state law. Where the governing statute requires a staffing-based calculation (as Kansas HB 2553 does), the number is driven by teacher count times grade-level class-size guidelines and is often labeled locally as 'staffing capacity.'	How many students is the district legally required to accept per grade per building under open-enrollment or similar law?	Teacher count by grade and state-specified class-size policy; the statute's definition of the unit of capacity.	Open-enrollment admissions, non-resident transfer acceptance, and public reporting required by statute.

Adapted from A4LE and CEFPI guidance (see Chapter 4 references). 'Staffing capacity' as used in Kansas under HB 2553 and KSA 72-3118 is an instance of statutory capacity; because the governing statute defines capacity around teacher-to-student ratios rather than physical space, a staffing-based figure can diverge from a district's functional capacity at the same building.

Measurement Mechanics

Functional capacity is computed room by room (Association for Learning Environments (A4LE), formerly CEFPI 2018). A credible room inventory records, for each space: room type (general classroom vs. specialty vs. small-group vs. support), size in square feet, current assigned program, and whether the space is available for general instruction. Long-running federal evidence on the physical condition and functional adequacy of the nation's school buildings (U.S. General Accounting Office 1995) underscores the point that what a building can hold, programmatically, is distinct from its nominal room count; room-level adequacy criteria (Earthman 2004) give the broader quality framework within which capacity is counted.

Table 13: T-13. Standard room-taxonomy for capacity measurement.

Room taxonomy — capacity measurement

Room type	Typical size	Counts toward functional capacity?
K-primary classroom	850-1,100 sqft	Yes — loaded at district class-size target
General classroom (1-12)	700-900 sqft	Yes — loaded at district class-size target
Small-group instruction	400-600 sqft	Conditional — program-specific
Resource / pullout	150-400 sqft	No — not primary instructional space
Specialty (music, art, lab)	Varies	No — dedicated use
Self-contained SpEd	Varies	Separate count — dedicated program
Athletics / PE	Varies	No
Administrative / storage	Varies	No

Typical-size ranges reflect common practitioner guidelines (A4LE facility-planning practice); district-specific standards vary. Olathe's specific taxonomy is summarized under Chapter 5, 'What Olathe Does Today — Capacity.'

Two practices separate good room inventories from poor ones. The first is **field verification**: walking the building and confirming the room inventory against the as-built plans, because spaces get reassigned over time without updates to the centralized inventory. The second is **versioning**: recording when each row in the inventory was last verified, by whom, so the inventory has an audit trail.

Utilization: The Basic Ratio

Now that we have an enrollment forecast and we have measured capacity, what is next? The logical next step is to bring the two together, which is a measure called utilization.

Utilization is, at root, a ratio: students assigned to a building divided by that building's functional capacity. A school at 100% utilization is exactly filled. Above 100% is over-enrolled. Below 100% is under-used. The arithmetic is simple. The judgments around it are not.

Why A Single Number Is Insufficient

The two challenges with a single utilization number are that it is **static** (it captures one year) and that it **hides distribution**. A school can be at 92% utilization overall with one grade severely over-enrolled and three grades under-enrolled. A school can be at 72% utilization this year but headed to 50% on the current forecast. Neither picture is visible in the single ratio.

Best-practice utilization analyses therefore pair the point utilization with:

1. A **trajectory**. Utilization over the past five years and projected over the next five.
2. A **distribution**. Utilization by grade or program within the building.
3. A **planning-area comparison**. Utilization relative to nearby schools in the same attendance region, so that a low utilization is read in the context of whether a neighboring school is over-enrolled.

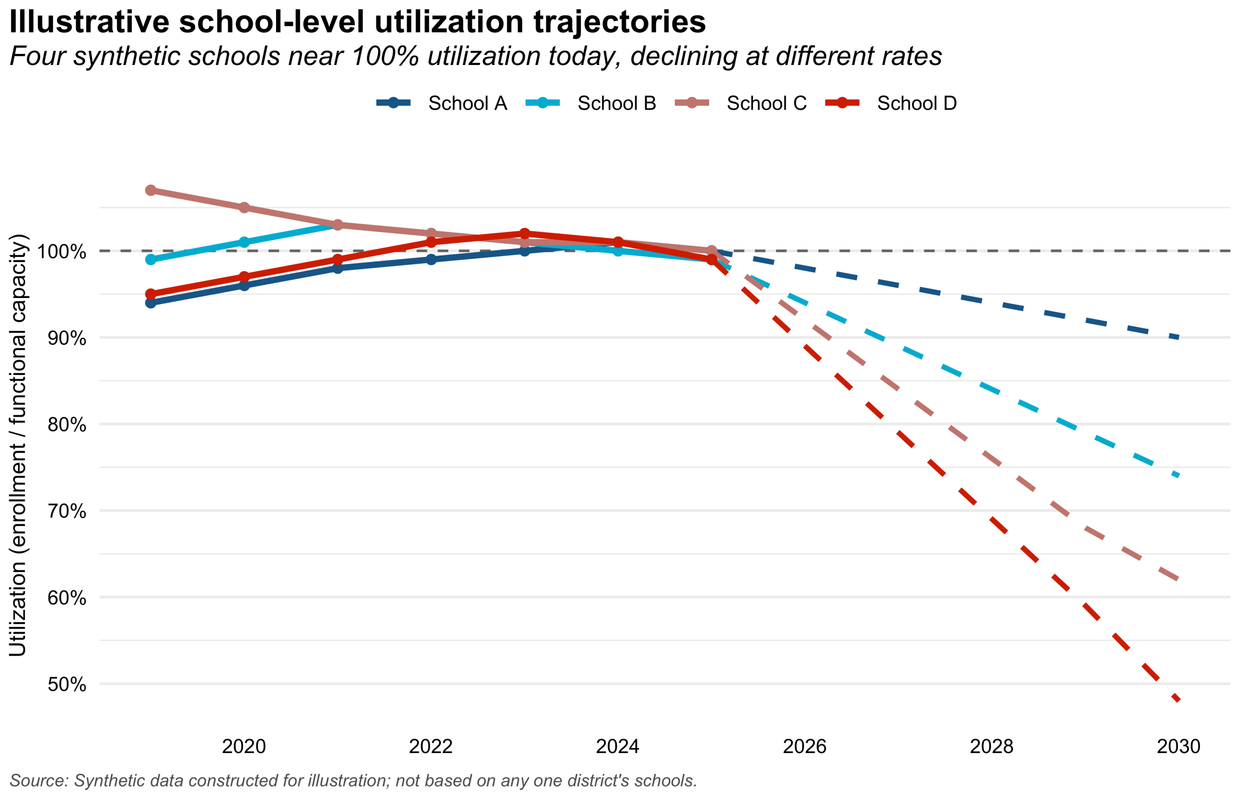


Figure 13: F-10. Synthetic school-level utilization trajectories. Solid lines are historical; dashed segments are projected. All four buildings share a utilization near 100 percent at the 2025 reference year and decline into 2030 at different rates.

The illustrative series in F-10 are synthetic, but the shape is the point. Four schools share the same current-year utilization near the 100 percent reference line in 2025. Over the next five years all four are projected to decline, but at very different rates. One school drifts gently to roughly 90 percent by 2030. A second falls into the mid-70s. A third drops into the low 60s. The fourth falls below half capacity. A district that reports only the current-year point utilization would treat the four buildings as equivalent in 2025. A district that pairs the current-year point with the projected trajectory sees a very different planning picture: one resilient building, one watch-list building, and two that are on track to become serious consolidation candidates by the end of the horizon. The figure motivates the threshold-and-decision-rule discussion that follows: thresholds applied to a trajectory rather than to a single year are what translate utilization numbers into action.

Thresholds And Decision Rules

Utilization thresholds are where capacity analysis ties most directly to facility decisions. The specific numbers vary by district. The practice that distinguishes strong from weak facility planning is whether the thresholds are documented, consistently applied, and linked to specific actions. A district that has written rules ("below 65% utilization for three consecutive years triggers a Planning Area review") is making better use of its utilization numbers than one that makes ad hoc judgments building by building.

Table 14: T-14. Peer district utilization thresholds and linked actions.

Peer utilization thresholds

District	Under-utilized threshold	Over-utilized threshold	Linked action
Blue Valley	Not published	80%	Gates open-enrollment at individual schools
Shawnee Mission	Not published	Not published	Forecast <300 students triggers boundary review
Park Hill	Not published	~96% elem, ~90% HS observed	Boundary change and facility investment
Wake County	Not published	Not published	Forecast drives annual new-school sequence
Frisco	Not published	2,100 HS / 900 MS / 760 ES	Annual rezoning and new-school opening
Douglas County	60% design capacity	Not published	Policy FCB closure-criteria evaluation
Boulder Valley	60% utilization	Not published	Consolidation when <60% or <2 classes/grade

Sources: Demographic Analytics Advisors research, drawing on district planning materials and news reporting as cited.

Feedback To Forecasting

Capacity and utilization feed back into forecasting. When a school is over-utilized, the district typically responds with a boundary change, a portable classroom, a program move, or a new school. Each of these changes the conditions the next forecast has to account for. A capacity-utilization workflow that does not loop back to the forecasting analyst ("here is what happened at School B after the boundary adjustment, and here is what you should know next cycle") is leaving institutional knowledge on the table.

The following table summarizes each of the peer districts on their utilization and capacity practices.

Table 15: T-15. Peer district capacity and utilization practice — summary.

Peer capacity practice

District	Capacity definition	Inventory source	Utilization reporting	Public documentation?
Blue Valley	Not specified	Internal	Threshold-gated (open-enrollment)	Board presentations only
Shawnee Mission	Effective capacity	RSP & Associates (consultant)	Dashboard + boundary reviews	Limited (BoardDocs)
Lee's Summit	Not specified	CFMP workshop process (2018-19)	Not publicly detailed	Strong for CFMP; thin on forecasts
North KC	Not specified	Internal	Not publicly detailed	Thin
Park Hill	Effective capacity	Internal + Woolpert for rezoning	Aggregate elem/ MS/HS ratios published annually	Annual report
Wake County	Core vs. total	Office of Geospatial Analytics (in-house)	Annual Facilities Utilization report, school-level	Extensive
Frisco	Design + target (e.g. 2,100 HS)	Zonda (consultant) + internal	Published capacity targets; school-level reporting	Extensive (annual demographic report)
Douglas County	Design capacity	Planning Specialist (in-house) + GIS	Growth & Decline Dashboard, school-level	Extensive (Policy FCB + dashboard)
Boulder Valley	Design + utilization %	Internal	Aggregate utilization; feeds LRAC process	Moderate (LRAC materials)

Sources: Demographic Analytics Advisors research, drawing on district planning materials and news reporting as cited. 'Extensive' signals a published annual report, 'Moderate' indicates committee-facing materials, and 'Thin' indicates information primarily in board presentations or internal materials.

Chapter 5. Current State Of Modeling At Olathe Public Schools

This chapter applies the best-practice frame of Chapters 3 and 4 to Olathe's current forecasting, capacity, and utilization work. It draws on Olathe's internal modeling workbook, the district's publicly available facility plans, and the conversations Demographic Analytics Advisors has had with district staff. The chapter is organized in four pieces:

1. A description of Olathe's current methods
2. A summary of where Olathe's practice is already strong
3. The opportunities for improvement that the frame in Chapters 3 and 4 surfaces
4. A set of advisory recommendations the district can weigh as the Student Enrollment and Facility Alignment Task Force proceeds

What Olathe Does Today

Enrollment Forecasting

Olathe's enrollment forecast is a **hybrid subdivision-based cohort-progression method with a housing-pipeline overlay**. A cohort-survival backbone rolls the current enrollment forward using three-year averaged grade-progression ratios, applied at the attendance-area / subdivision level rather than district-wide. A grid-level housing-pipeline component adds students from subdivisions under construction and those expected to deliver during the forecast horizon. These additions are driven by observed student-yield rates multiplied by anticipated unit counts and delivery dates. Kindergarten entry is handled with a separate K-entry ratio applied to lagged births mapped to the service area. The district's own description, in its March 2026 open-enrollment narrative, is that "Olathe Public Schools uses a modified cohort survival method. District staff averages cohort survival rates over a three-year period to minimize the effects of an abnormal year. These cohort survival rates are then modified based on the number and type of new residential units permitted within the school district by area cities."

Two structural adjustments, developed by the district for its staffing-capacity and open-enrollment calculations, sit alongside the baseline enrollment forecast rather than feeding into it. A **school-year migration adjustment** captures the maximum enrollment change between the September 20 audit and the last day of school, computed by grade and by school over the most recent six years. It acknowledges that families move into and out of the district through the school year and that a point-in-time September estimate alone will under-state the seats a school needs to hold. An **estimate-accuracy adjustment** captures the maximum residual between the prior March's estimate and the September 20 audit, computed by grade and by school over the same six-year window. Both adjustments are netted out of staffing capacity to determine seats available for non-resident transfers under the open-enrollment statute. They are **not currently applied to the baseline enrollment estimate**. The phenomena they capture — within-year net migration and prior-year estimate error — are real sources of forecast uncertainty, and extending analogous adjustments into the enrollment-estimate track is one way the district could make that uncertainty visible in its published baseline.

The forecasting workbook is structured to publish a **baseline** and an **alternative** scenario at both a five-year and a ten-year horizon. The alternative-track machinery could be used as a range-style sensitivity, tightening or loosening the housing-pipeline assumptions to bracket the baseline, and the workbook's structure would support that use. In current district practice, however, the alternative track is used to run **boundary-adjustment scenarios**: for example, testing how a proposed change to the boundary between two schools would shift enrollment at each building. That is a different question than bracketing the total-district baseline. It is a legitimate use of the same infrastructure, and boundary work is exactly the kind of question a subdivision-level forecast is best positioned to answer. The workbook carrying the forecast is maintained internally by the district's planning staff and updated annually.

The district's published forecast accuracy for the 2024-25 cycle was 99.2% at the district total (28,454 actual versus 28,695 estimated). Accuracy by level was 94.5% for early childhood, 98.7% for K-5, 99.9% for grades 6-8, 99.8% for grades 9-12, and 91.4% for alternative education. The headline-level accuracy is unusually strong (most district-level forecasts of this horizon land between 95% and 99%) and reflects the combination of the subdivision-level granularity, the housing-pipeline overlay, and the discipline of the three-year averaged GPRs.

The district's most recent published vintage is the **February 17, 2026 estimate** for the 2026-27 school year. Total district enrollment is estimated at 27,852, down 288 from the unaudited 2025-26 figure of 28,140, with the decline concentrated at the elementary level (-143) and the high school level (-187). Looking further out, the district's nine-year projection presented to the Board on November 6, 2025 has total enrollment at 25,792 by 2034, a decline of 2,348 students from 2025. The largest absolute declines are projected at K-5 (-948) and high school (-701), which together account for 70% of the projected nine-year drop.

Permitted residential development is a key input to the housing-pipeline overlay. During calendar year 2025, the district reports that area cities permitted 454 new residential units within district boundaries. Eight elementary attendance areas had at least 10 building permits each, and three each had more than 60. The geocoded-permit-to-attendance-area linkage is one of the practices that makes Olathe's forecast methodologically stronger than a district-wide cohort-survival approach.

Capacity

Olathe maintains and publishes **three distinct capacity measures**, each answering a different question about the district's facilities. The first two are facility-planning tools and have been part of district practice for years. The third was developed by the district in response to Kansas House Bill 2553 and is published annually as part of the district's open-enrollment posting.

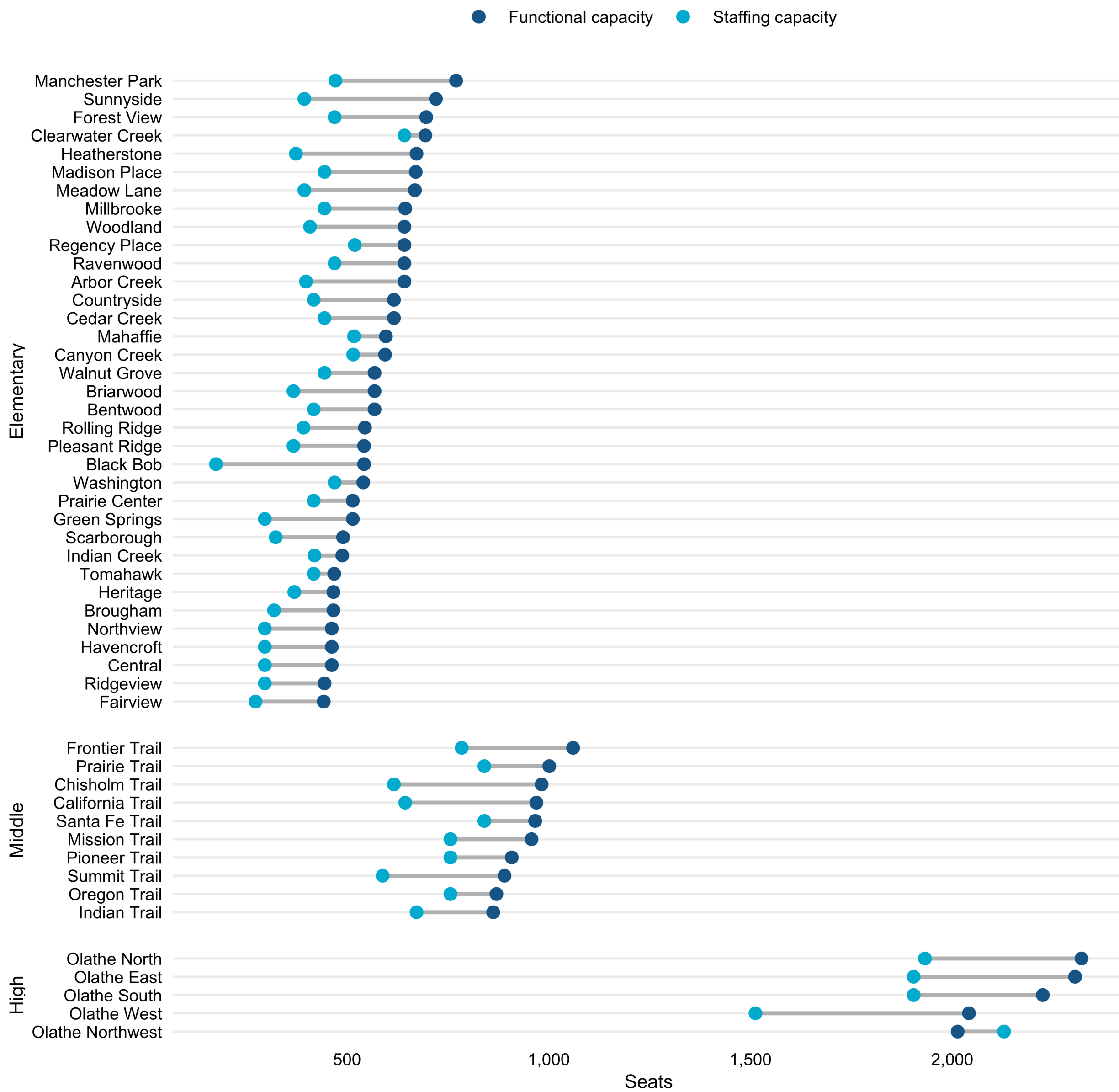
Functional and staffing capacity are reported on the same unit (seats) and are directly comparable school by school. Room utilization, described below, is reported as a rate (share of available instructional time that instructional spaces are in use) and is not on the same scale. It is therefore not included in the comparison chart. Figure 14 shows how functional and staffing capacity differ at each Olathe building[2]. Functional capacity is the building-shell question: how many students could

[2] One thing to note is that both Black Bob and Manchester Park have spanish immersion courses that must be treated separately from general classes. This impacts their capacity measurement.

this school hold if every general classroom were loaded to the district's target class size? Staffing capacity is the current-year question: how many students could this school hold given how it is currently staffed, grade by grade? The gap between the two is the *unused-shell* gap at each building, and it is the measure most directly relevant to consolidation conversations. A building with a large gap is a building whose physical plant is larger than its current staffed program requires.

Olathe Public Schools — functional vs. staffing capacity by school

2026-27; schools sorted within level by functional capacity



Sources: Olathe Public Schools Alternative Capacity Worksheet (functional capacity); BOE Open Enrollment Narrative, March 5, 2026 (staffing capacity).

Figure 14: F-11. Functional capacity versus staffing capacity, Olathe Public Schools, 2026-27. Each row is a single school. Gray segments show the per-school gap between the building's functional capacity (navy) and its current-year staffing capacity (teal). Sorted within level by functional capacity, ascending. Westview Elementary is excluded: the district's 2026-27 estimate shows zero enrollment at Westview, and Table A does not report a staffing-capacity value for the building.

Functional capacity is the district's primary internal planning number. The calculation loads general classrooms at a district target class size that can split Title 1 schools from Non-Title 1 schools, reflecting the potential for different target loadings between the two. K-primary rooms are loaded separately given their specific needs. Olathe's room taxonomy distinguishes Classroom, K-primary, Grade 1, Grade 2, Grade 3/4, Specialty, and Athletics spaces, with size thresholds at ≥600 sqft (general classroom), 400-599 sqft (small-group), and 90-399 sqft (resource). Self-contained special-education rooms are tracked separately and do not count toward general functional capacity. The district's own framing, in the March 2026 open-enrollment narrative, is that "functional capacity measures how many students a given school could accommodate if all classrooms (minus space for district required programming) are filled to the district's class size guidelines."

Room utilization is a second internal measure, finer-grained and different than functional capacity, that accounts for the variety of educational spaces in a building (full classrooms, kindergarten classrooms, half-classrooms, quarter-classrooms) and how many class periods or hours of the day each is used at the secondary level. Functional capacity asks "how many seats does this building have." Room utilization asks "how intensely are the building's existing rooms being used given their type and size." The two are complementary. A school can have low functional-capacity utilization but high room utilization if its small-group and specialty spaces are fully booked, or if all classes are on the low end of acceptable enrollment ranges.

Staffing capacity is the district's third measure, developed for compliance with KSA 72-3118 (as amended by HB 2553). The statute requires that capacity be determined "based on the classroom student teacher ratio in each grade level," not based on physical space. This is a deliberate framing that makes statutory capacity a function of how the district has *staffed* a building, not how it could theoretically *fit* students into the building. Olathe's staffing-capacity calculation uses the following district class-size guidelines:

Table 16: T-16. Olathe Public Schools class-size guidelines, used in staffing-capacity calculations.

Olathe class-size guidelines	
Grade band	**Class-size guideline**
Kindergarten - Grade 2	22
Grade 3	24
Grades 4-5	26
Grades 6-8	28
Grades 9-12	28
Source: Olathe Public Schools, BOE Open Enrollment Narrative, March 5, 2026.	

The calculation differs by level. At the elementary level, the number of teachers in each grade is multiplied by the class-size guideline for that grade and summed. The district's worked example for Arbor Creek Elementary (16 teachers across K-5 grades) yields a staffing capacity of 382. At the middle school level, capacity is constrained by the lowest core-subject section count across Language Arts, Science, and Social Studies for each grade, multiplied by 28. The district's example for Oregon Trail Middle School (eight 6th-grade social-studies sections being the binding constraint) yields a 6th-grade staffing capacity of 224. At the high school level, the binding constraint is the Language Arts section count, because the district requires four years of Language Arts and there is one course offering per grade for freshmen and sophomores. The example for Olathe East (17 sections of English I) yields a 9th-grade capacity of 476.

District-wide, the 2026-27 staffing capacity sums to **12,961 elementary**, **7,252 middle school**, and **9,380 high school** seats, for a total of **29,593**. Against the February 17, 2026 enrollment estimate of 27,852, this leaves approximately 1,741 seats of nominal headroom across the district before the school-year migration and estimate-accuracy adjustments are netted out. After the buffers and the program-eligibility constraints associated with the district's center-based model for special education and ELL services, the district has determined that 2,418 seats are available district-wide for non-resident transfers under the open-enrollment statute for the 2026-27 school year.

The capacity inventory underlying both functional capacity and room utilization is a room-by-room Excel workbook with columns for room type, square footage, current program assignment, and a last-updated date. Field verification happens on an ad hoc basis when a space is reassigned.

Utilization

Utilization is reported as the **headcount-to-functional-capacity ratio**, computed school by school. The district's internal workbook presents a **dual-metric display**: current-year utilization alongside the projected utilization at the end of the forecast horizon, so that a school's trajectory (not only its current state) is visible in the same view. Figure F-12 shows the elementary-level expression of this display as of the most recent district forecast cycle. Each school appears as a pair of points: one for 2024-25 utilization and one for the 2029-30 projection, connected by a gray segment so the five-year trajectory is read at a glance.

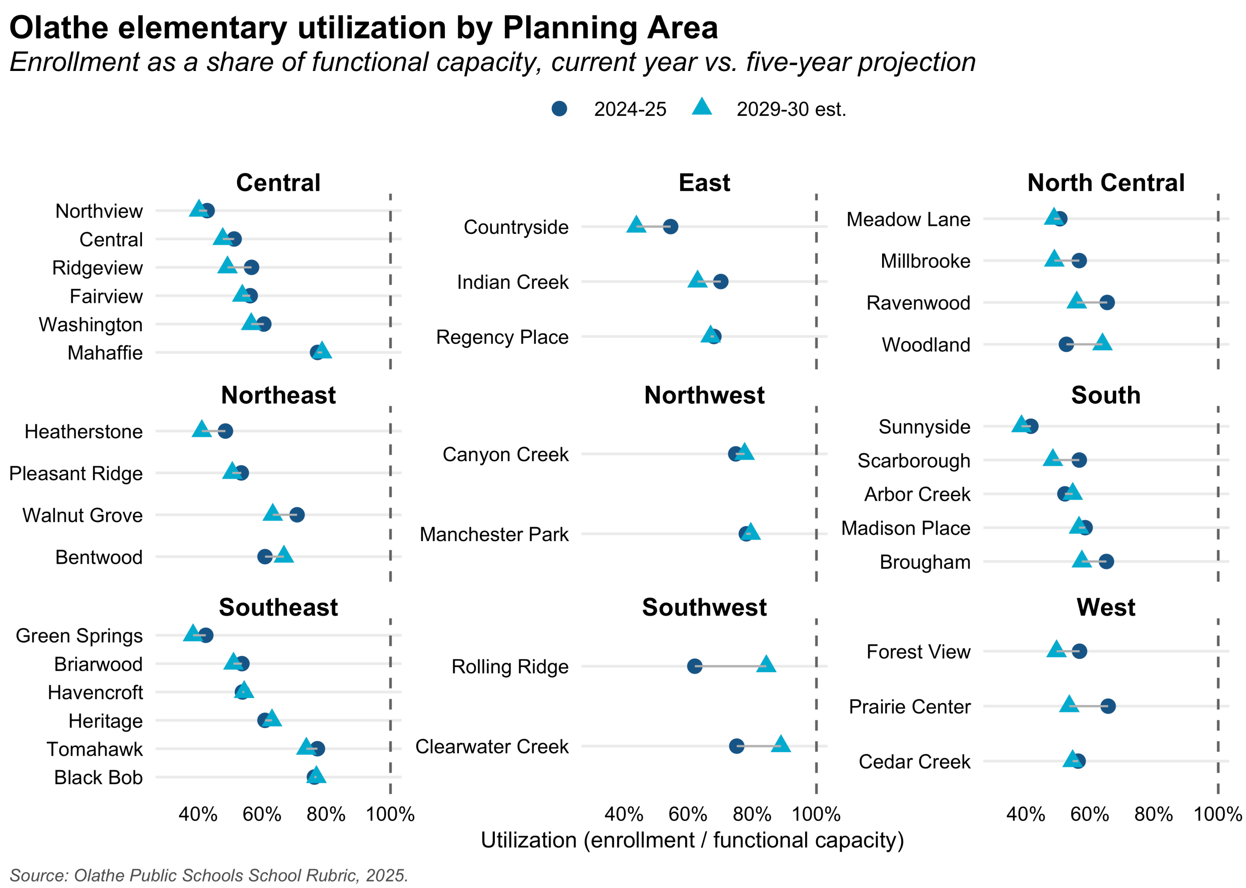


Figure 15: F-12. Olathe Public Schools — school-level utilization distribution, current year and end of forecast horizon.

School Rubric And Planning Areas

Olathe groups its schools into **Planning Areas** that correspond loosely to the district's attendance-area geography and the pattern of where residential growth has happened. The district has developed a **school rubric** that scores each building on a mix of enrollment, utilization, facility-condition, and educational-program indicators, and uses the rubric in combination with Planning Area context for facility-planning discussions.

Boundary Study Group And Community Process

A standing **Boundary Study Group** has met for over twenty years, studying district enrollment, facility planning, short- and long-term boundary options, and demographic data. The group is not an ad hoc body convened at the moment a boundary needs to change. It is a continuous institutional function, which gives the district a deep working memory of which boundary configurations have been considered and why they were or were not adopted. When a specific boundary change becomes operationally necessary, the district's practice has been to develop multiple options and walk impacted school staff and communities through each before the Board of Education adopts one. The Westview Elementary boundary recommendation adopted in November 2025 (which moves resident Westview students to Rolling Ridge for the 2026-27 school year, in conjunction with the Board's prior decision to repurpose the Westview building) followed this pattern. Five boundary options were presented to potentially impacted school staff and communities before the recommendation that came to the Board.

Capital Planning And The 2026 Bond

Olathe's facility-planning work is currently being expressed in two capital programs running in parallel. The 2022 bond is in mid-execution. The Olathe Public Schools Innovation Campus is operational (the Esports suite hosted the KSHSAA championship in January 2026 and a district health clinic is being designed in the adjacent unfinished space). The Aging Facilities, HVAC, and Roofing programs have bids approved with construction targeted for Summer 2026. A 2026 bond referendum was scheduled for March 3, 2026 with a $389 million package framed as a "no tax rate increase" issue. The largest line items are Capital Improvement Plan ongoing maintenance ($70M), school consolidation ($68M, replacing four end-of-life elementaries with two new schools), technology replacement ($64M), high school updates ($55M), athletics and activities ($50M), and a rebuild of Meadow Lane Elementary ($32M). The community-survey support for the consolidation line item was 71.5% in the district's pre-referendum ETC Institute survey. The empirical literature on district consolidation (Duncombe and Yinger 2007; Berry and West 2010; Bard et al. 2006) is more ambiguous than the popular discussion of cost savings tends to acknowledge. Effects on per-pupil cost and on student outcomes depend substantially on pre-consolidation scale and on whether consolidation is of schools within a district (as in Olathe's case) or of districts themselves. This paper's recommendations for Olathe are focused on the first category. The bond program is the operational expression of the enrollment-decline story laid out in the Chief Financial Officer's framing to the Board. The district no longer requires bond funds to accommodate growth, and its capital strategy has shifted toward maintaining the prior investment, seeking efficiencies through consolidation of low-enrollment elementary sites, and continuing the technology and safety-and-security cycles.

What Olathe Does Well

Measured against the four themes that organize this paper (documentation maturity, methodological rigor, decision linkage, and subgroup visibility), Olathe's current practice is **strong across the board relative to typical districts of its size**. The specific strengths fall into three clusters.

Documentation maturity. The forecasting workbook and capacity inventory are both preserved year over year in the same structure. This makes it possible to compare the current year's assumptions and outputs to prior years directly. The school rubric is documented with explicit indicators and weights.

Methodological rigor. The hybrid subdivision-based cohort-progression method is the right method for a district of Olathe's size and growth profile. It is substantially stronger than a district-wide cohort-survival approach. The three-year averaged GPRs are a sensible smoothing choice, and the grid-level housing overlay gives the forecast spatial granularity that very few peer districts of this size achieve in-house. The capacity methodology correctly uses functional rather than design capacity, and the ability for a Title 1 / Non-Title 1 loading distinction respects the real program differences across the district's schools.

Decision linkage. Reporting utilization at both the current year and the end of the forecast horizon is exactly the practice Chapter 4 recommends. The paired view lets the reader see not only where a building stands today but where it is trending. The Planning Area structure ties utilization and forecast output to the geographic units the district's governance discussions actually use, which makes the analysis directly usable in Board and community conversations. The rubric gives facility decisions an explicit, written decision frame rather than an ad hoc one.

Two practices Olathe runs that are uncommon at peer districts deserve specific mention. The first is the **published forecast accuracy record**: the district reports its prior-year forecast residual against the September audit at each annual presentation, broken down by educational level. The 2024-25 cycle landed at 99.2% at the district total, with each level (early childhood through alternative education) reported separately. Most peer districts of comparable size do not present forecast accuracy publicly. Doing so binds the analytical work to a feedback loop and makes the district's own record visible to readers and decision-makers. The second is the **standing Boundary Study Group**: a continuous body that maintains institutional memory of boundary options across decades, paired with a documented community-process practice (multiple boundary options presented to impacted school staff and communities before any Board recommendation). The combination of a standing analytical body and an explicit multi-option community process is the practice that distinguishes a district whose boundary decisions are read as legitimate by impacted communities from one whose decisions are read as imposed.

Opportunities For Strengthening Current Practice

The three issues surfaced below are not assessments that Olathe's current work is inadequate. They are specific practices that would move the district from strong-for-its-size toward the frontier of maturity for school districts of *any size* in the United States.

Formula stability in the modeling workbook. The current forecasting workbook contains a small number of stale formula references on one of its longer-horizon sheets. The issues do not affect the currently published forecast and would be straightforward to correct. The underlying cause is not unique to Olathe, because large Excel workbooks routinely accrue stale references as rows and columns move across annual vintages. Running an automated cell-integrity check at the start of each forecasting cycle would catch this class of error before it had a chance to propagate. A lightweight R or VBA audit that flags broken-formula cells would take a half-day to write and can be re-run each cycle.

Audit trail on the capacity inventory. The last-updated column of the capacity inventory currently carries a mix of formats across entries. The underlying information is correct and the inconsistency does not affect any substantive facility-planning decision, but the column is not being consistently formatted at entry. A simple validation rule on that column would fix this, and would make the inventory's audit trail scan-ready for a reader who does not already know the workbook.

Scenario display clarity. The baseline and alternative scenarios are both carried through the workbook, but a reader looking at a single sheet can have trouble distinguishing which scenario they are reading. Adding a scenario banner at the top of each sheet, and using a consistent color convention (one color family for baseline, one for alternative) across charts and tables, would reduce the cognitive load of consuming the workbook. It would also make it easier for a Board member or community stakeholder to read a single printed page and know which scenario they are looking at.

Additional practice improvements worth considering in the near term are (a) publishing a short public-facing methods document (two to four pages) describing the forecast's inputs, method, and scenarios, and (b) an annual back-test of the prior year's forecast against the actual enrollment, published in the same workbook. Two further improvements are worth considering as longer-term investments, appropriate to plan for once the near-term practices above have been in place for a cycle or two:

(c) Adding a probabilistic uncertainty band to the ten-year horizon using the time-series-on-GPRs variant from §3.3.4. This would let the Task Force read a quantitatively grounded range alongside the central line when a capital or boundary decision is on the table.

(d) Migrating the forecasting workbook from its current spreadsheet-based form to a scripted pipeline (in R, Python, or a dedicated forecasting tool) that automates the end-to-end forecast, exposes each step to testing, and re-runs on a new data vintage with a single command.

Both longer-term items change the engineering and uncertainty-treatment layers beneath the model rather than the method itself.

Advisory Recommendations

The eight items below are advisory. They are not ordered by importance but by approximate time-to-value. The practices at the top produce benefits within a single forecast cycle. The practices toward the bottom are longer-term investments that build on the near-term items and will take more than a cycle to put fully in place.

1. **Olathe should consider** adding a cell-integrity audit to each cycle of the forecasting workbook to catch stale formula references and similar errors before they propagate into reported numbers.
2. **Olathe should consider** standardizing the last-updated column in the capacity inventory on a single date format and adding an entry-time validation rule so the audit trail is scan-ready.
3. **Olathe should consider** adding a scenario banner and a consistent color convention to distinguish baseline from alternative scenarios at a glance in the forecasting workbook.
4. **Olathe should consider** publishing a short, public-facing description (two to four pages) of the forecast's inputs, method, scenarios, and known limitations in plain language. The same document would benefit from a one-page mapping of the three capacity measures the district maintains (functional capacity, room utilization, staffing capacity), explaining which decisions each measure informs and how they relate to one another, so that a reader who encounters the statutory open-enrollment posting in June can trace it back to the underlying facility-planning measures. This written record is easier to track and version than powerpoint.
5. **Olathe should consider** running an annual back-test of the prior cycle's forecast against realized enrollment, and publishing the residual summary in the same workbook, so the method's performance is documented over time.
6. **Olathe should consider** adding a short subgroup-by-grade view to the utilization and forecasting outputs (at minimum, multilingual learners and students with IEPs) so that building-level planning

decisions are taken with visibility into whether the subgroup composition of a building is changing in ways that affect program requirements.

7. **As a longer-term consideration**, Olathe may wish to add a probabilistic uncertainty band to its ten-year forecast using the time-series-on-GPRs variant of cohort-survival. This is a best practice that relatively few districts of any size currently implement, and it is a natural next step once the near-term workbook-hygiene and documentation practices above have been in place for a cycle or two. The payoff is a forecast that is communicated to the Board and the community as a range alongside the central line, matching the uncertainty-treatment practice Chapter 3 describes.
8. **As a longer-term consideration**, Olathe may wish to migrate the forecasting workbook from its current spreadsheet-based form to a scripted pipeline (in R, Python, or a dedicated forecasting tool) that automates the end-to-end forecast, exposes each step to unit and regression testing, and re-runs on a new data vintage with a single command rather than by hand-copying numbers across sheets. The workbook has served the district well and the method it implements is the correct method. A migration of this kind is about the engineering layer beneath the model, not about changing the model. A spreadsheet-to-script transition is a substantial project with its own learning curve, and it is appropriate to plan for only after the simpler practice improvements above have been in place for a cycle or two.

Chapter 6. Conclusion

What We Found

Three observations anchor this paper. First, the practices that distinguish strong district-level enrollment forecasting and capacity work from weak practice are not exotic. They are documented methods, honest uncertainty treatment, consistent data discipline, and explicit links between analytical outputs and governance decisions. Districts that do these things well tend to do them across all three of forecasting, capacity, and utilization. Districts that do one well and one poorly tend to make decisions that are only partly grounded in evidence. Second, Olathe Public Schools is a district whose current practice sits notably above the median of districts of its size, with a forecasting method and capacity methodology that already incorporate most of the practices this paper recommends. Third, the opportunities for Olathe to improve are specific and tractable: workbook hygiene, audit-trail clarity, scenario-display conventions, a short public description of the forecast method, an annual back-test, and a grade-subgroup view in the near term, with a probabilistic uncertainty band and a migration from spreadsheet to scripted pipeline as longer-term investments the district can plan for. None of the near-term items are heavy lifts relative to the value they create, and the longer-term items are the kind of infrastructure improvements that pay out over multiple forecast cycles. Importantly, none of these items will substantively impact the quality of the forecast, capacity, and utilization outputs, and therefore the work of the Task Force.

Looking Forward

The Student Enrollment and Facility Alignment Task Force will make decisions of substantial public consequence over the next year and beyond. The practices in this paper are not a prescription for what those decisions should be. They are a set of tools for making the evidence behind those decisions more legible and more defensible. A district that can point, in a public meeting, to its forecast's back-test, its capacity inventory's audit trail, and its utilization trajectory's uncertainty band is a district whose governance body is equipped to reason about facility choices on terms the public can see.

Demographic Analytics Advisors will continue to advise Olathe Public Schools on the questions this paper raises, and on the related demographic, capacity, and facility-planning questions that will arise as the Task Force's work proceeds, throughout the remainder of the engagement. The Task Force's decisions will be easier for the community to weigh, and easier for the Board to defend, if each one is tied to an explicit piece of the evidence base developed alongside this paper. Our role through the rest of the engagement is to help keep that link visible.

Appendix A. Key Methodological Sources

The sources below are the ones that most directly underlie this paper's treatment of enrollment forecasting and capacity analysis. This is a curated short list. The full bibliography, including the peer-district exemplars, housing-turnover literature, and vital-statistics references, is in Appendix E.

Swanson and Siegel, *The Methods and Materials of Demography* (3rd ed., 2016). The canonical reference for demographic estimation and projection. It underlies the cohort framework used throughout Chapter 3.

Smith, Tayman, and Swanson, *A Practitioner's Guide to State and Local Population Projections* (2013). The working practitioner's reference for state- and substate-level projections. It is the direct methodological lineage for how this paper treats GPR averaging, scenario construction, and projection evaluation.

Hamilton and Perry (1962) and Cochran (1970). Hamilton and Perry introduced the cohort-change-ratio method for projecting total population by age and sex, a short-cut technique widely used in state and sub-state demographic work, though not itself a K-12 enrollment method (Hamilton and Perry 1962). Cochran's 1970 paper adapted the cohort-ratio idea specifically to K-12 enrollment via the grade-progression ratio, and is the methodological parent for the cohort-survival approach described in §3.3.

Stoto (1983), Smith and Sincich (1992), and Tayman, Rayer, and Smith (2011). Three articles that together define how the field evaluates projection accuracy and characterizes forecast uncertainty. The uncertainty-treatment recommendations in Chapters 3 and 4 follow this literature.

Association for Learning Environments (formerly CEFPI), *Creating Connections: The CEFPI Guide for Educational Facility Planning* (2018). The professional reference for K-12 facility planning. It provides the framework for distinguishing design from functional capacity and for structuring a capacity inventory, and is the anchor for Chapter 4.

Earthman, *Prioritization of 31 Criteria for School Building Adequacy* (2004). The structured adequacy-criteria report used in Chapter 4 to organize the paper's treatment of building condition relative to program capacity.

Duncombe and Yinger, "Does School District Consolidation Cut Costs?" (*Education Finance and Policy*, 2007). The most-cited empirical treatment of district and school consolidation, and the primary support for the paper's discussion of the Olathe 2026 bond's consolidation line item.

Zonda Demographics (2024) and DC Office of the State Superintendent of Education (2023). Industry and government references on student-yield methodology. Together they underlie the pipeline-based and hybrid-method discussions in §3.3.

Appendix B. Glossary

Cohort-survival method. A forecasting technique that rolls each grade-level cohort forward using observed grade-progression ratios. The industry-standard baseline method for K-12 enrollment forecasting.

Design capacity. The maximum headcount a building can physically hold under its as-built layout, without regard to program use.

Functional capacity. The number of students a building can educate under the district's actual program, staffing, and class-size policies. Generally lower than design capacity.

Grade-progression ratio (GPR). The ratio of grade $g+1$ enrollment in year $t+1$ to grade g enrollment in year t. The elemental building block of cohort-survival forecasting.

Hamilton-Perry method. A cohort-change-ratio technique for projecting total population by age and sex, introduced by Hamilton and Perry (1962). Widely used in state and sub-state population projections because it requires only two data points per cohort and does not need separate fertility, mortality, and migration inputs. Conceptually related to but distinct from the grade-progression ratio used in K-12 enrollment forecasting. Hamilton-Perry works on multi-year age-group ratios from census data, while GPR works on single-grade annual transitions from school data.

Market share. The share of school-age residents in a district's service area who enroll in the district's public schools, as distinct from private, charter, or homeschool alternatives.

Planning Area. An intra-district geography (in Olathe's case, Northeast, East, South, and Southeast) used to group schools for facility-planning discussions.

Program capacity. The number of students a building can serve under a specific program (e.g., dual-language immersion). Narrower than functional capacity.

Student yield. The expected number of public-school-enrolled students per housing unit in a given housing-type and geography. Used in pipeline-based forecasting methods.

Time-series-on-GPRs. A variant of cohort-survival that projects the GPR time series forward with a statistical model (ARIMA, ETS, or state-space) rather than a trailing mean, and produces probabilistic intervals directly.

Utilization. The ratio of enrolled headcount to a building's functional capacity.

Appendix C. Peer District Index

The peer panel used throughout this paper is listed in Table T-09. The panel is a two-tier comparator: a Kansas City metropolitan peer set that anchors Olathe against districts that share a labor market and commute shed, and a national exemplar set drawn from districts whose published forecasting or facility-planning materials illustrate specific practices discussed in Chapters 3 and 4. The rationale for each inclusion is below.

The Kansas City metropolitan peers were selected for geographic proximity, enrollment size within a rough band of Olathe's, and a shared KC-metro labor market.

Blue Valley USD 229 (Kansas). Johnson County, immediately adjacent to Olathe. An affluent, growth-shaped suburban district at a comparable enrollment scale. The closest side-by-side comparator on geography and demographic profile.

Shawnee Mission USD 512 (Kansas). A larger, older Johnson County district. Useful as a comparator that has moved further along the residential-maturity trajectory Olathe is beginning to observe in parts of its own service area.

Lee's Summit R-7 (Missouri). Eastern KC metro, on the Missouri side of the state line. Included so the peer set has a both-sides-of-the-river view of the shared metropolitan labor market.

North Kansas City Schools (Missouri). Northern KC metro. A differently positioned comparator (more urban-adjacent than suburban-growth) at a comparable enrollment size.

Park Hill SD (Missouri). Northern KC metro, smaller than Olathe. Included as the small-end anchor of the KC-metro size band. A district with a different combination of size and growth than the other four.

The national exemplars were selected because each district publishes planning materials that illustrate a specific practice discussed in Chapters 3 or 4. They are not chosen as "most similar to Olathe." They are chosen for what can be learned from their documentation.

Wake County PSS (North Carolina). A very large district with a long-running, publicly posted enrollment projection program. Referenced as NAT-01 in Chapter 3 for its public-documentation and forecast-reporting practices.

Frisco ISD (Texas). Previously one of the fastest-growing districts in the country, now in the transition from rapid growth to decline. Referenced in §2.5 as an aging-in-place case study and as NAT-02 in Chapter 3 for its public demographic reports and its explicit discussion of the aging-in-place dynamic.

Douglas County SD (Colorado). A Denver-area district with a standing long-range planning committee that publishes reports tying enrollment forecasts to boundary and capacity decisions. Referenced as NAT-03 for its committee-linked decision process.

Boulder Valley SD (Colorado). A mature district with a publicly documented multi-decade enrollment-decline outlook. Referenced in §2.5 as an aging-in-place case study, as NAT-04 in Chapter 3 for its public long-range outlook, and as the F-09 toy-district example used to illustrate the cohort-survival method.

Appendix D. Self-Review Checklist

The checklist below is a short list of questions a district can use to test its own forecasting and capacity materials against the practices described in Chapters 3 and 4. The questions are framed so that "yes" answers correspond to stronger practice.

Forecasting

1. Does the forecast document its method, inputs, and assumptions in a way a non-technical reader can follow?
2. Does the forecast present an uncertainty band or a set of scenarios alongside the central line?
3. Does the forecast back-test against the prior cycle's projection, and publish the residuals?
4. Is the forecasting workbook reproducible from the same inputs that produced its published numbers?
5. Does the district maintain an override log documenting analyst adjustments to mechanical outputs?
6. Does the forecast use grade- and school- (or attendance-area-) level detail, rather than only a district-wide total?

Capacity

1. Does the district publish functional capacity, not only design capacity?
2. Does the capacity inventory record last-verified date and verifier for each room?
3. Are specialty, small-group, and self-contained rooms tracked separately from general classrooms?
4. Is the inventory reconciled against actual building plans on a documented cycle?
5. Are class-size loading targets documented per room type and per program?

Utilization

1. Does the district report utilization alongside a trajectory, not only a point estimate?
2. Does the district publish a distribution (by grade or program) within each building, not only a single aggregated ratio?
3. Does the district compare utilization across schools in the same Planning Area or attendance region?
4. Are utilization thresholds documented and consistently applied?
5. Are utilization thresholds explicitly linked to specific decisions the district considers when a building crosses a threshold?
6. Does the capacity-utilization workflow loop back to the forecasting analyst so post-decision outcomes inform the next forecast cycle?

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