



# Evaluating Key Data to Ensure Long-term Fiscal Strength

**Authors:** Heather Taylor,  
Gretchen DeBobes, Stan Wisler



## About the Institute

The Frontline Research and Learning Institute is dedicated to providing data-driven research, resources and observations to support and advance the educational community.

# Executive Summary

Each year, budget season challenges business leaders to anticipate incoming revenue amounts, project district spending needs, and strike a balance between the two. This paper outlines three factors that can impact district budgets: changes in revenue, changes in student population, and changes in staffing. It presents data analytics as a tool that business leaders can use to track annual fluctuations in these indicators, and it provides questions to ask when evaluating data to gain budgeting insights.

Like other businesses, schools are organizations that provide a service to their customers. They provide students with access to their right to an education. Like other organizations, they must do so without exceeding their financial means. This requires district business personnel to project income and expenses related to annual needs and goals. However, this task is not easily accomplished. According to the US [Census](#), all states but Hawaii and the District of Columbia ended the 2020 fiscal year in debt for Public Elementary-Secondary School System spending. The size of states' debts ranged from nearly \$40 million in Wyoming to \$90 billion in California. For most districts in these states, expenditures have vastly outpaced revenue. While some districts can cut expenses and balance their budgets, others must resort to deficit spending. School business leaders can play an integral role in keeping their districts in the green by considering future events and factors that may impact their district's budget in the long term.

**1** *But what are the key factors and events that contribute to a balanced budget?*

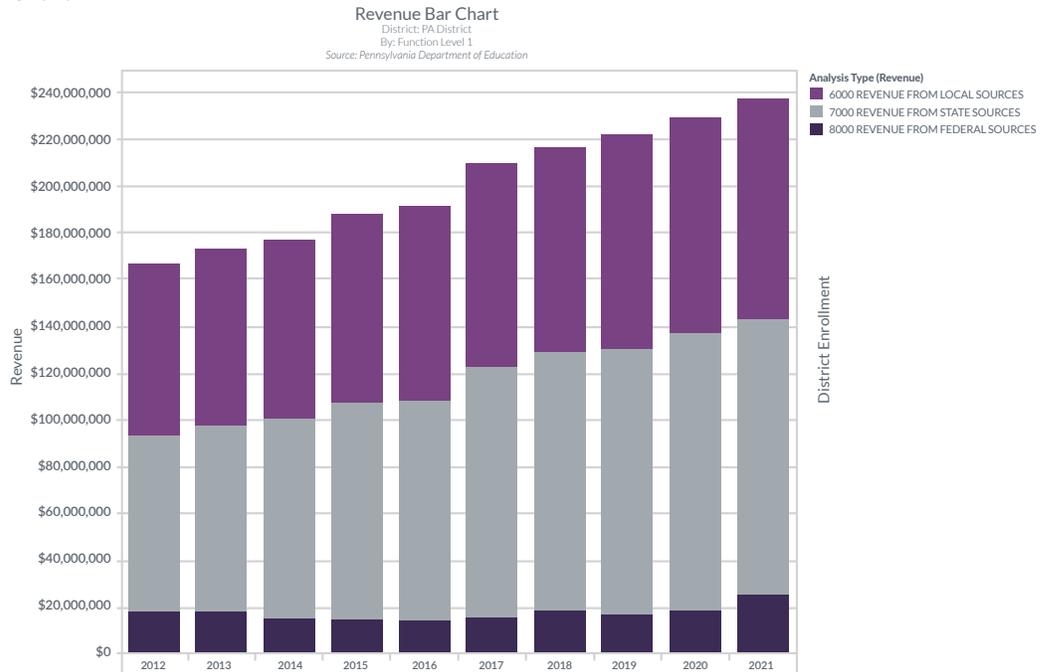
**2** *What indicators should school business leaders attend to?*

**3** *How can data and analytics help?*

# Factors and Events that Impact District Budgeting

## Factor 1: Changes in Revenue

Chart 1



Though districts are funded by a variety of sources, which can complicate financial organizational management, nearly [90% of K-12 education dollars](#) come from state and local revenues, which are primarily comprised of sales, income, and property taxes. This can cause the mix of revenue sources and the amount of revenue coming from each source to change from state to state and, in some cases, even county to county. By keeping a close watch on local economies, as well as factors that might indicate impending changes to economic health, school business managers can anticipate and plan for potential shifts to budget bottom lines.

---

## Proportion of total revenue contributed by local, state, and federal sources

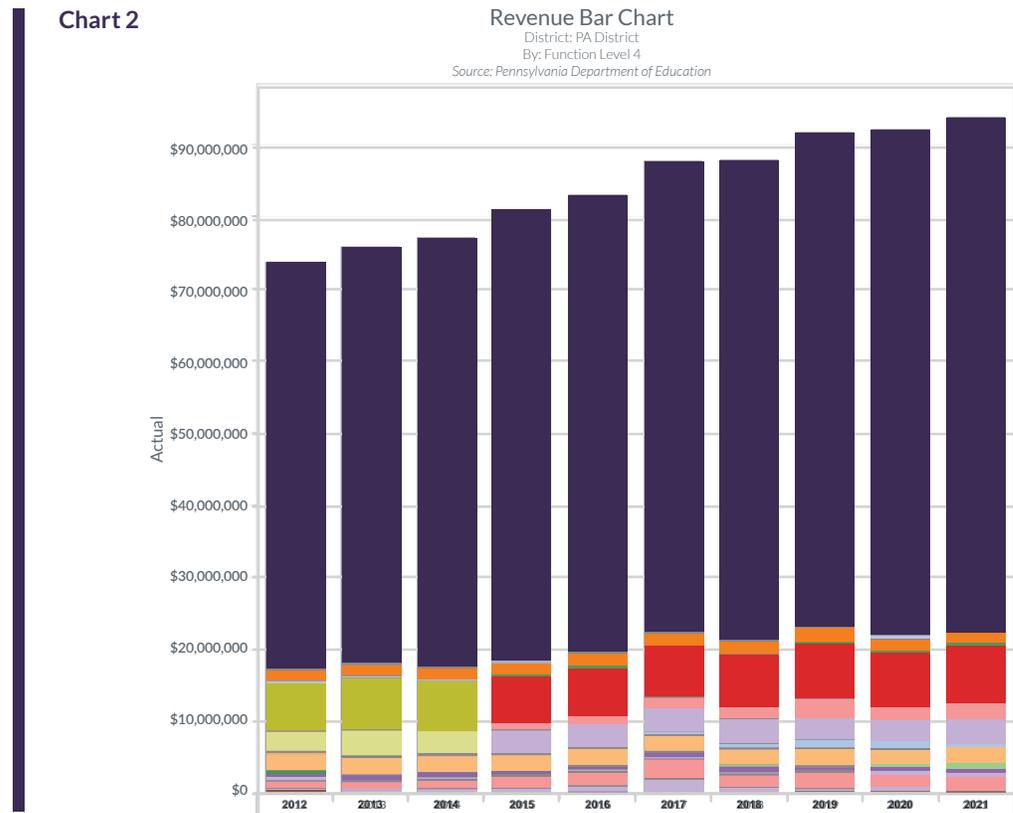
Economic recessions, loss of local industry, lack of growth in property values, increased unemployment, and decreased income tax can all contribute to uncertain revenue. **Chart 1** displays the proportions of total revenue contributed by three different sources in one Pennsylvania district.

While **Chart 1** displays a slight increase in revenue year after year, which is often attributed to factors like inflation and organic increases in property taxes, a more drastic increase in federal revenue of nearly 30-40% can be detected in 2021. This coincides with the district's receipt of the Elementary and Secondary School Emergency Relief fund (ESSER), which attempted to compensate for losses in state revenue resulting from residual economic factors related to the COVID-19 pandemic, like decreased income and sales tax.

By keeping a watchful eye on analytics, school business leaders can keep track of changes to revenue, such as fluctuations in the proportions of revenue contributed by local, state, and federal sources. While the increase in revenue for 2021 and the subsequent school years may follow a natural and historic trend for this district, the proportions of revenue from the three sources are slightly skewed. Once the deadline to spend ESSER funding has passed and federal revenue contributions return to their typical annual amounts, overall revenue may dip below that of previous years, especially if the economic recession persists.

**Chart 2** provides a closer look at the breakdown of the same district's local revenue. While even more sources contribute to this pool of funding, the majority comes from property taxes. This is by far the largest and most stable source of revenue that this district receives and has increased only slightly over the past three years.

## Proportions of Revenue from Local Sources



**Analysis Type (Revenue)**

- 6111 Current Real Estate Taxes
- 6112 Interim Real Estate Taxes
- 6113 Public Utility Realty Tax
- 6114 Payments In Lieu Of Current Taxes – State/Local Reimbursement
- 6140 CURRENT ACT 511 TAXES – FLAT RATE ASSESSMENTS
- 6143 Current Act 511 Local Services Taxes
- 6150 CURRENT ACT 511 TAXES – PROPORTIONAL ASSESSMENTS
- 6151 Current Act 511 Earned Income Taxes
- 6153 Current Act 511 Real Estate Transfer Taxes
- 6400 DELINQUENCIES ON TAXES LEVIED / ASSESSED BY THE LEA
- 6411 Delinquent Real Estate Taxes
- 6500 EARNINGS ON INVESTMENTS
- 6700 REVENUES FROM LEA ACTIVITIES
- 6810 REVENUES FROM LOCAL GOVERNMENT UNITS
- 6829 State Revenue Received From Other Sources
- 6831 Federal Revenue Received From Other Pennsylvania Public Schools
- 6832 Federal IDEA Revenue Received as Pass Through
- 6833 Federal ARRA IDEA Revenue Received as Pass Through
- 6839 Federal Revenue Received From Other Sources
- 6890 OTHER REVENUE FROM INTERMEDIARY SOURCES
- 6910 Rentals
- 6920 CONTRIBUTIONS / DONATIONS / GRANTS FROM PRIVATE SOURCES
- 6941 Regular Day School Tuition
- 6942 Summer School Tuition
- 6944 Receipts From Other LEAs In Pennsylvania - Education
- 6991 Refunds of a Prior Year Expenditure
- 6992 Energy Efficiency Revenues and Incentives
- 6999 Other Revenues Not Specified Above

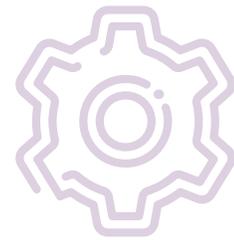
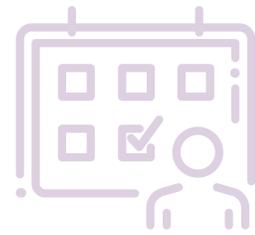
---

## **Factor 2: Changes in Student Population**

Projected student enrollment may be the single most important factor influencing the amount of state revenue a district receives. The amount is determined by a statewide formula which aims to account for differences in the costs of achieving equal educational opportunity and for differences in the ability of local districts to cover costs. State revenue increases with need. For instance, states provide more funding to districts with fewer local revenue dollars, such as those situated in high-poverty areas.

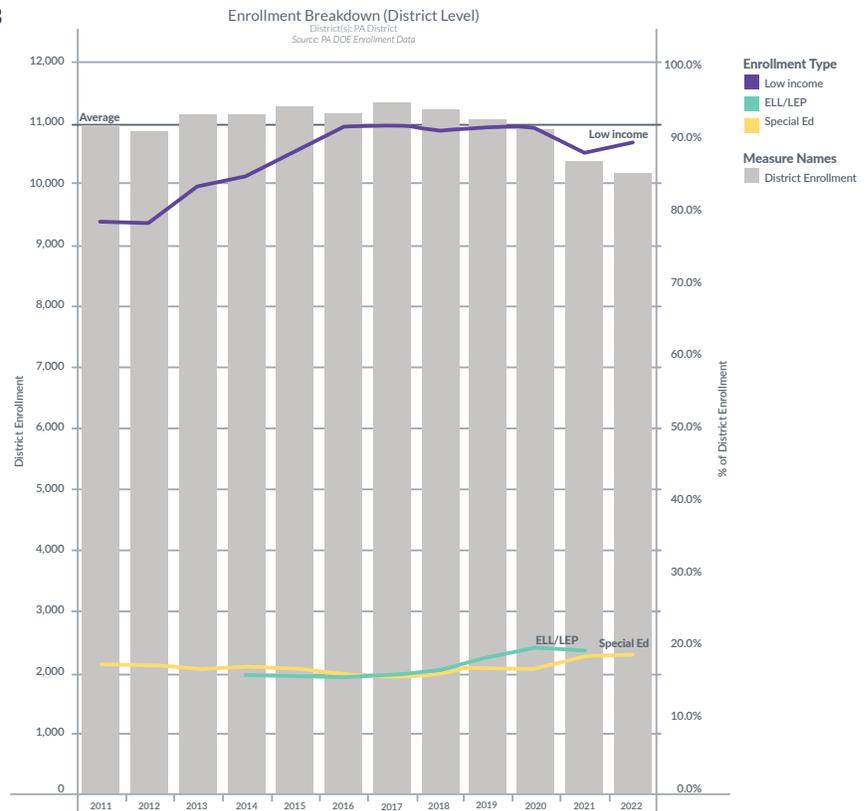
For most districts, student enrollment is variable from year to year and influenced by local factors like birth rate, changes to school and/or district boundaries, residential housing availability, the job market, and non-public school enrollment. Macro factors like a global pandemic, immigration, and international conflicts to name a few could also impact a locale's population and student enrollment. Keeping up with current events on the local and global scale will help business managers anticipate population changes that could impact district funding.

**Chart 3** depicts the same district's enrollment breakdown for the past ten years. It shows a stable enrollment through 2017 at which time the number of enrolled students began to decrease slowly, but steadily. Using this trend as a predictor for future enrollment and resource allocation may have led to inaccurate conclusions. This district saw a near 5% decrease in enrollment, or a loss of over 500 students between 2020 and 2021. That number continued to dip well into the 2022 school year.



## District Level Enrollment Breakdown

Chart 3



While overall enrollment decreased in this district, the proportion of low-income students grew consistently until mid 2016 but then hovered around 90% in the years that followed. The proportion of state revenue in Chart 3 mirrors this trend. It shows a steady increase in state funding through 2017 and then a leveling off through 2022, which demonstrates the direct link between district economic need and state funding.

District business managers can use population trends, such as these, to anticipate future state funding.

Additionally, while enrollment is decreasing, special populations like emergent bilinguals and special education are rising steadily. This pattern may signify a need to reallocate resources within the district. For instance, this district might consider adding an FTE special educator or EL teacher.

---

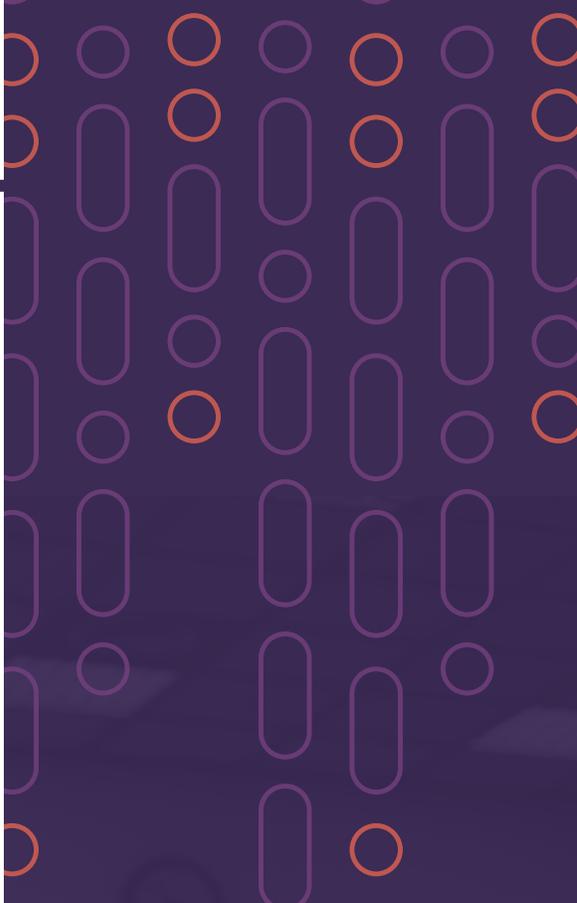
## Factor 3: Changes in Staffing

### *Teacher Vacancies*

While it is important for business managers to track revenue sources and potential factors that impact the amount of funding their districts may receive annually, expenditures and aspects that effect need-based line items are equally vital. Human capital management constitutes the largest portion of K-12 public schools' annual budgets with staff [salaries and benefits accounting for nearly 80% of spending](#).

While districts can project expenditures for a future fiscal year based on the current cost of salaries and benefits, there is no guarantee that staffing will remain consistent from year to year, or even from day to day, resulting from district enrollment demand and job market supply. According to recent data, [the current labor shortage](#), for both non-instructional staff and teachers, is attributed to a decrease in the number of candidates as opposed to a significant increase in the number of open positions. In fact, [the National Center for Education Statistics \(NCES\)](#) reported that as of January 2022, nearly half of public schools (44%) reported a full-time or part-time teaching vacancy. School budgets should anticipate and account for turnover, by incorporating salary and benefit costs for all current and anticipated openings, while also factoring in costs related to human capital management processes. [The Learning Policy Institute](#) warns that districts can spend up to \$20,000 on filling a single vacancy. Included in this cost are dollars spent on processing a former teacher's departure, as well as those allocated to the recruitment, hiring, and training of new teachers.

When budgeting for unfilled teaching positions, it is important to know that hire rate is [influenced by factors like subject area and grade level](#). Vacancies in physical education, social studies, and elementary education are typically filled much faster whereas foreign language, special education, and gifted and talented could take a longer amount of time to fill. These vacancies could carry over into the following school or fiscal year and will cause districts to accrue additional costs by hiring substitutes to fill in.



**44%**  
reported a  
**full-time** or  
**part-time**  
teaching  
vacancy

For some districts this might result in overspending on substitute teachers and underspending on FTE teacher salaries and benefits. See **Chart 4** for expenditures versus budget for certified teachers and substitute teachers. Though this could ultimately produce a budget surplus, it is far from the best-case scenario. Students benefit from the consistency of permanent classroom teachers and district business managers should continue to write in FTE line items until they are filled.

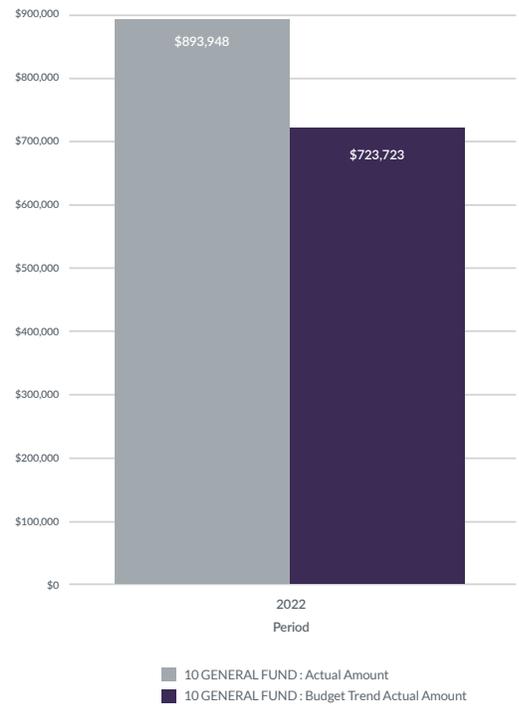
## Actual Expenditures Versus Budget

**Chart 4**

Certified Teachers Actual Expenditures versus Budget



Substitute Teachers Actual Expenditures versus Budget



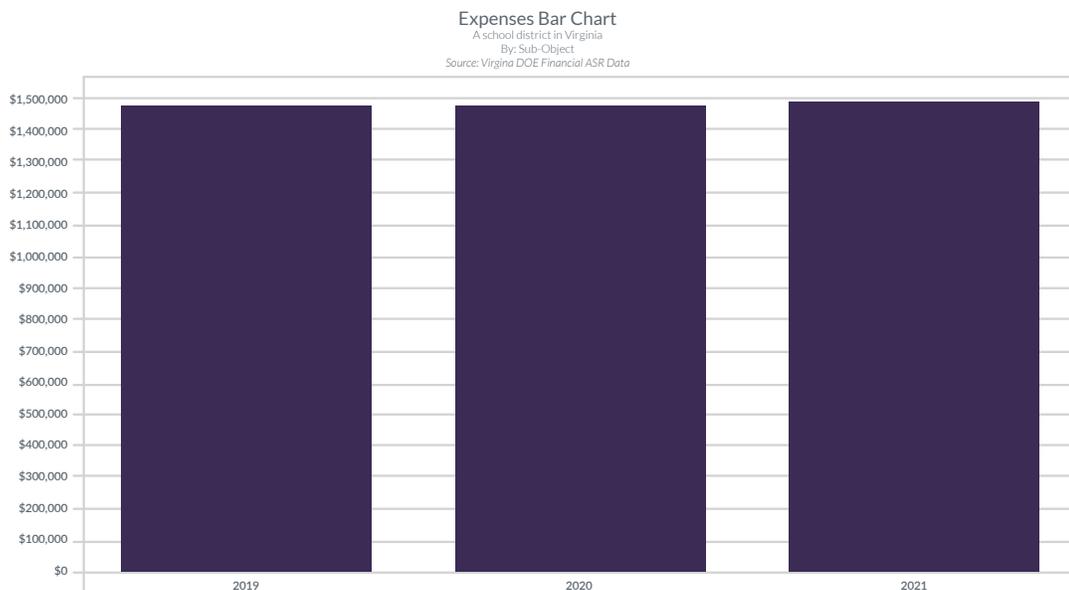
## Substitute Spending

In addition to recruitment challenges, other factors, like widespread illness or teacher strikes could lead to a similar trend in substitute expenditures. While the largest portion of a district's annual budget is already reserved for teacher salaries and benefits, districts must spend even more to ensure that classrooms are filled when teachers are out. According to data from The Frontline Research and Learning Institute, on average, districts hire approximately six substitute teachers per day to cover teacher absences. By paying substitutes [the national mean hourly rate](#) of \$18.50, the average district accrues an additional \$140,000 per year to ensure their classrooms are staffed with qualified substitutes. Understanding the absence trends of staff helps with accurate spending projections.

**Chart 5** displays one district's spending on teacher salaries and benefits for the 2019, 2020, and 2021 school year. Chart 6 displays the same district's spending on substitutes in the same timeframe.

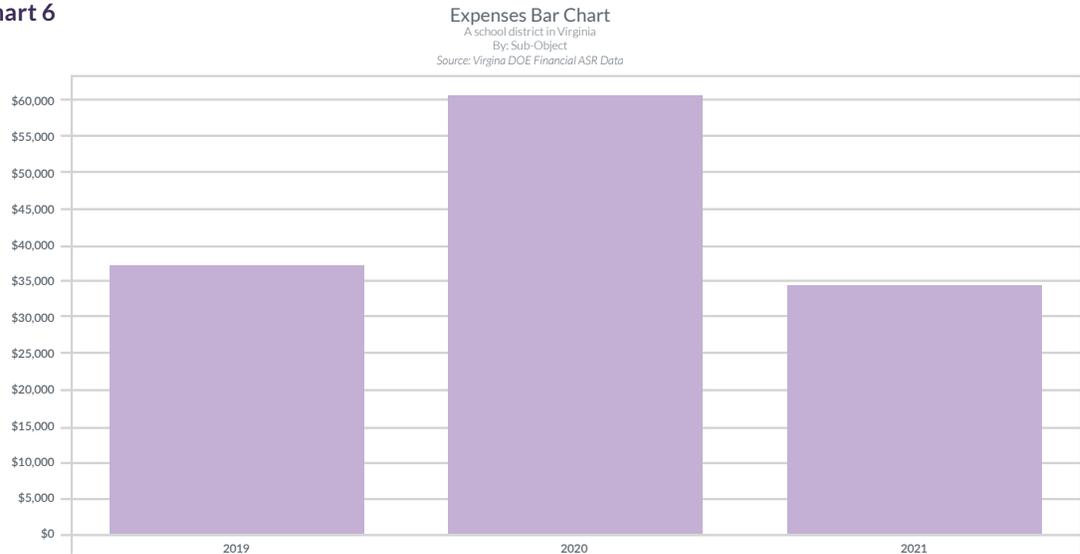
## District Spending on Teachers Salaries and Benefits from 2019-2021

**Chart 5**



## District Spending on Substitutes from 2019-2021

Chart 6



While the data shows that this district's spending on teacher salaries and benefits remained stable year after year, **Chart 6** displays a major increase in spending on substitutes during the 2020 school year. In 2019 and 2021 this district spent approximately \$35,000 on substitute teachers. As teacher absences increased during the COVID-19 pandemic, that cost soared to over \$65,000 for the year, an amount that the district likely did not anticipate.

## Summary

School business managers play an essential role in ensuring that districts are operating within their means. While no magic formula exists to predict revenue and expenditures year after year, data and analytics and a keen awareness of local and global factors can help financial leaders anticipate shifts that may impact their district's budget. Long-range financial planning and transparency with stakeholders can lead to smarter decisions and greater community buy-in. School business managers can ask questions related to the three factors as they analyze data related to district finances.

---

Answering these questions will help business leaders detect changes in district needs and goals and anticipate the funding that they will be able to allocate to meet them.

## Recommended Questions to Guide Budget Assessments:

### Revenue:

- How much money is coming from each revenue source?
- Will the state or city fund a particular program?
- Is an industry coming to or leaving the area?
- What's happening to the housing and labor markets?

### Student Population:

- How many students are in the district?
  - Is enrollment changing? How?
- How many low-income students are in the district?
- How many students have a specific need, like special education or English language learning?
- Are there any trends in the demographic data? Is the proportion of students who receive special education services changing?
- What is happening in the broader community context? Is there a sudden influx of immigrants or refugees who will need specific programming like English language education?
- What is the ratio of staff to students? Is it changing? How?

### Staffing:

- Does staffing match current student needs?
  - Based on demographic trends, are student needs projected to change?
- How long do teacher vacancies take to fill?  
What factors influence fill rate?
- How often can districts expect to hire substitute teachers?

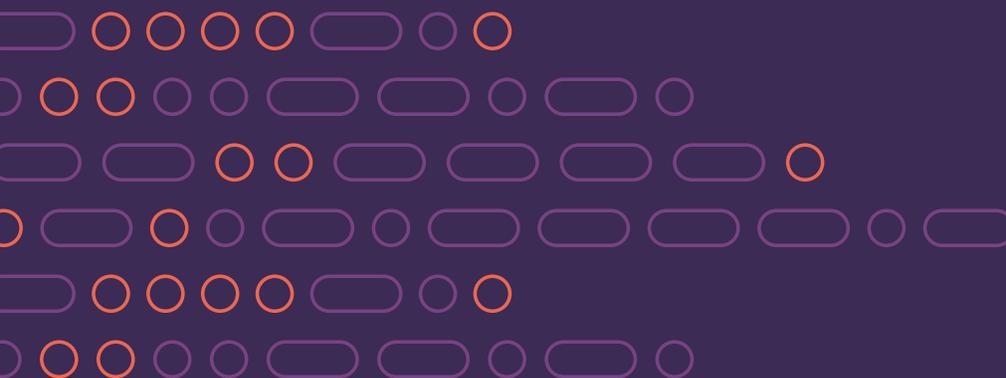


---

# Learn More

For more insights into K-12 education, visit

**[FrontlineInstitute.com](https://FrontlineInstitute.com)**



## About the Institute

The Frontline Research & Learning Institute generates data-driven research, resources and observations to support and advance the education community. The Institute's research is powered by Frontline Education data and analytics capabilities in partnership with over 10,000 K-12 organizations and several million users nationwide. The Institute's research reports and analysis are designed to provide practical insights for teachers and leaders as well as benchmarks to inform strategic decision-making within their organizations.