Spinning Straw into Gold

How state education agencies can transform their data to improve critical school resource decisions

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SPINNING STRAW ----- INTO GOLD

LOCAL EDUCATION AGENCY (LEA) COLLECTS AND SUBMITS DATA

- Employee & Evaluation • School • Student Performance
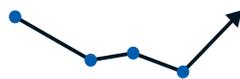- Payroll • Expenditures • Course Schedules • Student Enrollment

INDIVIDUAL SEA DEPARTMENTS PROCESS DATA

| Human Resources | School Turnaround | Finance & Budget | Academics & Accountability |

COMPLIANCE PATH
SEA uses data to monitor compliance

SEA departments use data to verify compliance with state and federal regulations

Districts categorized as in or out of compliance and often do not receive support to improve

GOLDEN PATH
SEA uses data to help LEAs transform their systems

SEA cross-divisional team links student data with resource data

SEA calculates metrics that describe how people, time, and money align with student priorities

SEA shares data with local education agencies at key milestones to support and inform strategic planning

- Funding
- Staffing
- Scheduling and Student Grouping

Same teachers, teaching the same groups on the same schedule. Little improvement of student outcomes.

Local leaders use data to inform strategic actions

MORE STUDENTS SUCCEED.

How state education agencies can transform their data to improve critical school resource decisions

by Stephen Frank and Joseph Trawick-Smith, *Education Resource Strategies*

K–12 education resources are often allocated non-strategically, with schools spending time and money on activities that have little relationship to student outcomes. The role of the state education agency (SEA) in shaping local policies, including resource use, has been much debated, with some reformers calling for a narrower SEA role. This paper contends that the SEA's role should instead become more strategic. While states dictate how some school resources are spent, when it comes time to set schedules, set staffing levels and assignments, and firm up budgets, most of these decisions actually take place within districts.

Local education agencies (LEAs) could dramatically improve resource distribution by better analyzing data that describe how people, time, and money were allocated the year before and determining where those efforts succeeded or fell short. To do that, districts have to link specific student needs to specific school interventions, and that requires merging and reconciling a range of datasets. Most LEAs do not make this investment, but SEAs can and do. States already use this kind of data to create public accountability reports or inform research or policy but not typically to support local decisions. As such, they are sitting on a veritable gold mine of untapped material that could be used for a vital purpose: supporting LEA resource decisions.

By helping to inform and improve local decisions and make them more strategic, SEAs could help reallocate resources across the state without introducing a single mandate or resource constraint. In this paper, and an accompanying detailed appendix, we look at key decision-making processes that largely determine how people, time, and money are used in LEAs. And for each process, we identify questions and metrics where the strategic use of state data would help school and district leaders make better resource decisions—turning straw into gold.

I. A New Vision for Local Decision-Making

Imagine that you are a high school principal entering your second year in a school. Your school's assessment scores lag behind state targets, and you are committed to improving them. It is scheduling time again. You recognize that this provides a vital opportunity to differentiate support for struggling students by giving them more time, placing them in smaller classes, or assigning them to effective teachers. You also want your most novice teachers to have more manageable loads. And you want to make sure that your school's resources reflect your stated commitment to core academics.

Last year, when you tried to discuss these objectives with the building scheduler, she pointed to her desk. On one side sat a stack of student requests for classes. On the other side was a list of existing faculty. She agreed with you in principle, but implementation was a mystery to her. In the end, the scheduling process felt like business as usual. This year, you're determined to do better.

So what do you do?

You're in luck. Using the financial, scheduling, and performance data you reported to the state last year, the state education agency (SEA) has compiled an integrated scheduling report that describes how your school schedules people and time toward certain academic priorities. The report shows that, last year, ninth grade remedial math classes were disproportionately assigned to teachers who were in the first three years of the profession.

Examining further, you see that these novice teachers also had 20 percent larger teaching loads than more senior colleagues, making it difficult for them to build relationships with their students. Since math is a priority for your school, you direct your scheduler to develop a plan that re-assigns your most effective math teachers to the students who need them most, while reducing loads for your least experienced teachers.

English is another priority for your school: In the past few years, scores have fallen significantly below the statewide average. When you examine the state-provided scheduling report, you find that only one-third of your struggling students in English received additional academic time to catch up with their peers.
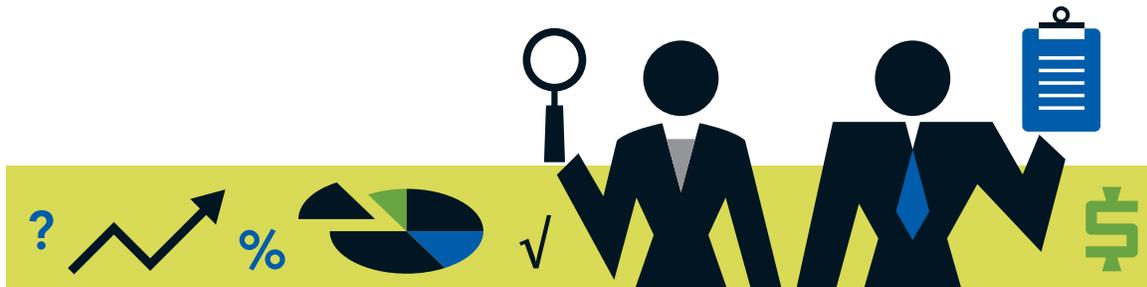
You look at a summary of your master schedule for the upcoming school year and see that you have an opportunity to double block these students so that they get the time they need.

But how can you pay for the additional time? Your gut tells you that you need to make some tough consolidation decisions. In the scheduling report, you find a section that analyzes your spending (per pupil and overall) per class. You learn that, on average, your investment in upper-level electives last year was three times higher than your investment in ninth grade English. By reviewing the list of specific classes with your scheduler, you are able to identify lower-priority courses to consolidate, which frees up resources to rededicate to your objectives.

This report shows how scenarios like this one can become the norm, not the exception.

II. The Need for Change: SEAs' Current Role

The relationship between local school districts across the United States and the SEAs that oversee them has been shifting in recent years. In the past, in accordance with state and federal laws, including various iterations of the Elementary and Secondary Education Act, SEAs generally told local education agencies (LEAs) what to do—setting rules around teacher hiring, for example—and then monitored compliance. Now, in part due to the federal No Child Left Behind law and a waiver process associated with that law, states are much more likely to give LEAs more flexibility in the educational approaches they take while holding them accountable for gains in student achievement.

This flexibility is vital. However, as evident from lagging achievement levels and persistent achievement gaps, flexibility without support is not sufficient to transform schools. And districts aren't using all the newfound flexibility to the degree they could and should be. For example, they often invest in across-the-board class-size reductions that don't vary based on student need even though that's not required or effective.

Consider the evidence from Georgia, where the SEA removed mandates around how districts allocate school resources and offered LEAs broad flexibility to do what they thought was best. Rather than using the flexibility to invest in high-impact areas, such as extended learning time and incentives to place the most effective teachers in high-needs schools, LEAs maintained traditional spending patterns. For example, they invested in across-the-board salary increases, electives, and other areas not closely linked to student achievement. As a result of these practices, little changed about student performance.

III. The Evolving State Role: Supporting Local Decision-Making on Resource Allocation

There is no single improvement that can fix U.S. public schools, but allocating resources (people, time, and money) more effectively must become a key part of any solution. The United States spends an estimated $550 billion per year on elementary and secondary education[1], but it's estimated that up to a third of K–12 spending supports activities that research has said have little to no effect on student achievement. These include making small, ineffective reductions in whole-class sizes across grades and subjects; compensating teachers for accomplishments not associated with increased student learning, such as the acquisition of a master's degree and the length of time spent in a job; and giving all students the same school schedule regardless of academic needs.[2]

With SEAs increasing their focus on student outcomes, it is important that they play a central role in reallocating resources more effectively. This will require a cultural change, with SEAs shifting from monitoring compliance to supporting district success. Although some argue that SEAs are overstretched and should be scaled back[3], helping districts make the best use of their resources is a better answer and is fully within the existing SEA scope. It's not a question of taking on more work but of working in different, more effective ways.

For instance, SEAs collect a tremendous amount of data on how LEAs use resources, mostly to ensure compliance with top-down mandates and meet public reporting requirements. However, instead of simply collecting data from LEAs to meet these state requirements, we propose that SEAs rethink the underlying paradigm, focusing on how they can use the data they already collect from LEAs to help schools and districts make better resource decisions to improve student learning.

To understand how this could work, we need to start by understanding how resource decisions are made in schools and districts. It's natural to assume that decisions around how people, time, and money are allocated rest with the school and district planning teams that preside over annual budgeting or strategic planning decisions. But the reality is that most resources are allocated outside of these formal planning processes through a series of separate decisions that take place as schools hire staff, assign students to classes, and assemble teacher teams. The table in *Figure 1* (page 5) shows a list of key processes that determine the actual use of people, time, and money in schools and districts.

While these individual processes determine how local resources are allotted, decision-makers engaging in these processes often do not look at the big picture in a holistic way to ensure that resources are used well. To improve schools and boost student achievement, district and school leaders must ensure that these processes target people, time, and money to address key instructional priorities. To do that, school leaders must be able to draw on data that clarify the link between individual students and the resources they receive—mainly in the areas of funding, staffing, and scheduling.

FIGURE 1. OVERVIEW OF PRIMARY RESOURCE ALLOCATION PROCESSES

RESOURCE DECISION	PROCESS	DESCRIPTION
Strategic Planning	Assessment and prioritization	The identification of academic and organizational priorities
	Resource planning	The development of a resource strategy that meets priorities and leverages existing opportunities
Funding	Budgeting and purchasing	The alignment of financial resources to the district's strategic priorities
	Portfolio management	The management of school sizes, program offerings, and configurations to balance effective programs with available resources
	School allotments	The allotment of financial resources to schools based on school and student needs
Staffing	Leadership and management staffing	The hiring, assignment, and management of leadership and other non-instructional talent
	Teacher hiring and assignment	The timely recruitment and assignment of candidates to schools, subjects, and courses based on individual strengths and staffing needs
	Teacher teaming	The deliberate assignment of teachers to teams and roles based on their strengths and development needs
	Professional development	The ongoing delivery of targeted support to teachers based on observations of their strengths and development needs
	Workforce management	The management of a data-informed system to retain the most effective teachers and exit the least effective teachers
	Compensation and career path	The management of a transparent compensation system that attracts, retains, leverages, and aligns a high-performing teaching force in a financially sustainable way
Scheduling and Student Grouping	Program placement	The assignment of students to programs, services, and instructional supports that match their individual needs
	Scheduling	The creation of master schedules that organize time strategically and vary based on student need
	Student grouping	The creation of flexible student and teacher groupings that target individual attention through the ongoing adjustment of group sizes, talent, and technology

Better resource data can improve student performance

A few schools and districts are trying to use resource data on their own at the local level. For instance, when Tennessee implemented value-added performance data on teacher effectiveness, Maryville Middle School used these data to assign teachers to classes that play to their strengths. By assigning teachers to the group of students with which they worked the best, this school consistently outperformed all other districts and schools in the state on the key metric of how much their students learned. That's turning data straw into gold but only at a local level.

School leaders must be able to draw on data that clarify the link between individual students and the resources they receive— mainly in the areas of funding, staffing, and scheduling.

Similarly, in Aldine, Texas, system leaders have used state-collected data on teacher effectiveness to identify differences in how talent is deployed across schools. For example, they learned that some schools have high and increasing concentrations of the district's most effective teachers while others have low or declining concentrations. They were able to use test data provided by the state to illuminate the problem, showing that principals in schools serving students with similar challenges varied in how well they hired new talent, developed existing talent, or retained top performers while managing out chronic underachievers.

Now administrators in Aldine are beginning to use this information to provide differential support to principals based on need. But the district first had to conduct a major analysis of the data provided by the state. *It would be much more efficient for the SEA to conduct this type of analysis and share it with districts—allowing all of them, not just one, to benefit.*

It is important to note that many SEAs across the country are creating such data for the first time. Often, they want to use the data to make permanent career decisions (firing underachievers or awarding large raises to top performers) even though teachers and critics are skeptical about the overall quality of the effectiveness data. By sharing such data for the purpose of providing differentiated support, SEAs can give districts an opportunity to vet the data before using them for some of the more controversial reforms that may require teacher buy-in or improvements to the underlying metrics. Sharing these data also empowers districts to learn from and act on important aggregate trends that are not as reliant upon precision.

In the cases of both Aldine and Maryville, the fact that other schools and districts did not adopt these models suggests an opportunity for SEAs to make it easier for LEAs to follow the lead of highflyers in their states. Consider that Maryville could not have enabled such powerful decision-support metrics without embarking on a laborious process of disassembling and reassembling state-provided data. If SEAs reorganized the way they report teacher effectiveness data to make them easier for LEAs to use, states could make a big difference without ever mandating anything of their districts. By doing so, they would make it easier for districts to turn straw into gold, capitalizing on a key opportunity to improve student learning through more effective resource practices.
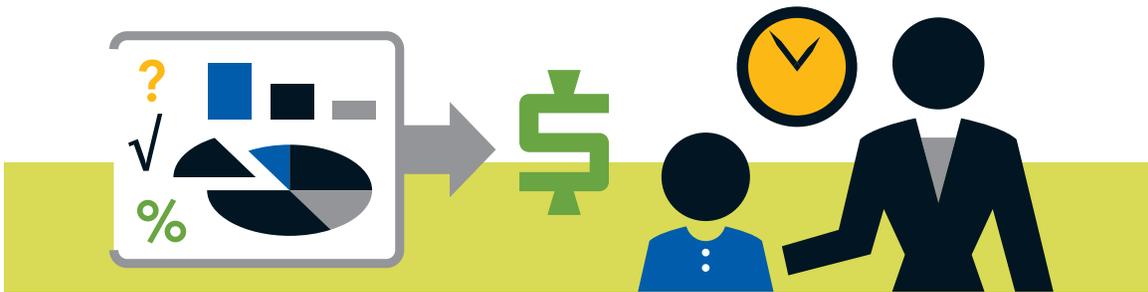
Consider the following additional possibilities when it comes to how available data could be used to support more strategic local resource decisions:

- *Scheduling data* can reveal the amount of academic time struggling students spend in their weakest subjects and can be used to identify which students need more scheduled time.

- *Teacher effectiveness data* can help identify trends across schools, indicating whether schools have problems with professional development, hiring, retention, or teacher assignment. This can inform a differentiated school support strategy as well as districtwide initiatives.

- *Payroll and teacher data* can illustrate how compensation dollars are allocated to promote effective teaching and expanded contributions through additional roles and responsibilities.

- *Course data* can describe how schools prioritize class sizes for different content areas and student types, revealing areas where the non-strategic distribution of teachers presents opportunities to reallocate resources toward priorities.

- *School-level funding data* can show how well districts distribute financial resources across schools to account for the various needs of their students.

While these examples highlight some of the most valuable local uses of state-provided metrics, they only scratch the surface of opportunities for SEAs to support districts. (See Appendix for a more complete list of examples of decision-support metrics.)

Why the state is so well positioned

Why should the SEA invest in describing local resource patterns and aiding new decisions? Why should it collect data from districts, process them, and report them back rather than encouraging LEAs to do this for themselves?

We would argue that the creation of decision-support metrics is an important and appropriate state role for three reasons.

1. Many SEAs already collect much of the information they need to create decision-support metrics, including budget and scheduling information; enrollment data; student achievement metrics; and teacher effectiveness, certification, hiring, and retention data. For instance, in Georgia, Education Resource Strategies (ERS) was able to calculate a host of decision-support metrics using exclusively data that were already collected by the Georgia Department of Education.

2. From a public-cost perspective, it is far more efficient for the SEA to analyze and report such metrics once for all districts than it is for districts to invest in calculating the metrics on their own. This is especially true due to recent and ongoing SEA investments in creating consistent data structures that support longitudinal research on educational productivity.[4]

3. The creation of such reports can also further advance SEA efforts to embrace a more supportive and less prescriptive role with respect to LEAs. When they gather data from LEAs, even for compliance purposes, SEAs must do so with an eye toward how schools and districts can use the collected data to better support performance improvement while avoiding pre- or proscribing specific actions or initiatives.

IV. Current Processes Do Not Provide Much Insight to Support Local Resource Decisions

Unfortunately, the type of decision-support metrics just described are not typically calculated at either the state or local levels, and most existing financial reports are not particularly insightful to decision-makers. At the local level, this appears to be because some districts lack vision while others lack the capacity or have simply not yet organized resources to the task.[5] The core of the problem is this: Typical SEA-generated financial reports simply attempt to show generally *how much* is spent per student, but not *how well* it's spent or the various ways in which it is spent and to what effect. They also do not tie specific investments of people, time, and money to specific need.

In order for states to improve their reporting on how local resources are used so that schools and districts can make better decisions, SEAs must go broader and deeper.

- **Broader:** SEAs must first adopt a broader definition of resources that extends beyond simple financial metrics to include descriptions of how people, time, and money are used.

- **Deeper (disaggregated):** SEAs must capture resource data that better describe key areas of investment, such as professional development and teacher evaluation. They must also set up information systems that connect this descriptive resource data with data on both individual schools and specific students (i.e., need and performance).

When SEAs link student and resource data, they can answer two types of questions: causal or descriptive. The causal question—how well did these students perform based on the investment of people, time, and, money—is an important one that requires a long-term, sustained investment in better longitudinal data. It may take many years for states to successfully address this need.

Linking student-level resource and performance data can provide immediate, practical help to local school leaders.

The more important, immediate opportunity for SEAs is to focus on describing resource allocation patterns:

- Did students with specific performance challenges receive differentiated resource investments? For instance, did students who failed the English language arts or math test receive more time in the failed subject, a better teacher, a smaller group or class size, or some other intervention?

- Are the district's best teachers concentrated in certain schools or spread out evenly?

- And what factors appear to account for trends over time?

In short, it is by linking student-level resource and performance data that we create metrics that have immediate and practical use, helping local leaders make better resource decisions.

V. Recommendations: What SEAs Can Do

No matter what their starting point is, states should not make perfect the enemy of good.

1. SEAs should adopt a new paradigm of decision support that makes the following shifts:

- Goes beyond data collection for compliance and accountability purposes to deliver meaningful reports or information tools that districts can use to better understand and integrate their data and make smart decisions.

- Expands on the slim reports of disparate, aggregate data points that SEAs often send districts now, such as those that confirm per-pupil spending, to include a broad array of metrics that describe the impact that people, time, and money are having on student achievement.

- Breaks down data silos to link district resource data with student achievement and teacher effectiveness data. SEAs must ensure that they connect data sets across organizational divisions. Linking teacher effectiveness data with student course schedule data should be at the center of these efforts. Since research suggests that the effectiveness of teachers has a strong influence on students' academic performance, linking teacher effectiveness data with the student roster by way of course schedule data should be at the center of these efforts.[6]

2. Many states can begin to create managerially useful metrics with data they already collect.

For example, all states could calculate how much each system spends per pupil on different student types (i.e., students with disabilities, English language learners, gifted). By viewing these metrics across the state, local leaders could begin to compare their spending patterns to those of similar districts.

3. Where data are insufficient, states can advocate for and initiate data reform.

Not all states are in the same position. Although most SEAs collect the type of data necessary to create managerially useful metrics, the level of detail they capture varies across the country. For example, the New York State Education Department collects financial data from each district but doesn't track expenditures to individual schools. This makes it difficult to answer important questions about school-level spending and funding equity. Meanwhile, a subset of states may have even larger gaps in their resource data collection. For instance, the Maine Department of Education does not collect student course schedule data, which makes it virtually impossible to provide the many key metrics around scheduling and student assignments that resource data could furnish.

To unlock the full potential of their data systems to aid decision support, SEAs must identify these data challenges and address them. Efforts to improve data systems at the state level, spearheaded by organizations like the Data Quality Campaign, have already helped to build data infrastructure that allows for strategic reporting. SEAs committed to providing this kind of support to districts should start by using the framework presented here, work with districts and schools to identify priorities regarding their resource decisions, and decide what level of detail the data must capture. States then can work backward to understand which data gaps represent the biggest challenges and how they can close them.

While some of these challenges relate to the data collection process, others stem from the political and regulatory environment a state operates within. For instance, recent concerns around privacy have incited a wave of policy reforms that attempt to limit the use of student growth and teacher effectiveness data. While these policies are well-intentioned, they create barriers to the use of data for ground-level decision-making. Rather than circumvent these policies, SEAs should craft compelling value propositions that link the use of these data to improvements in student learning. By bringing key stakeholders along on their path to reform, SEAs can build the political goodwill they need to succeed.

4. Where the process of data reform at the state level is persistently challenging, SEAs can find other ways to empower local districts and schools to use their own data differently.

For instance, they can create decentralized data platforms and frameworks for data analysis, thereby helping local officials to generate their own metrics for better decisionmaking. The guidance will not

FIGURE 2. EXAMPLE OF A SELF-ASSESSMENT WORKSHEET

I. The state collects data necessary to link resource use with student need.	
State Actions	**Completed**
The state collects disaggregated data on student academic growth.	☐
The state collects disaggregated data on teacher effectiveness that incorporate multiple measures, including student outcomes.	☐
The state collects disaggregated data on teacher experience, education, and certification.	☐
The state collects disaggregated student course schedule data (one row per student-class combination).	☐
Student course schedule data contain all district-offered courses, including those not on the state roster.	☐
Student course schedule data include elements that describe student academic time (i.e., frequency, period length, and semester).	☐
Student course schedule data include fields that can be used to construct a non-duplicated class identifier.	☐
The state collects expenditure data that include all funding sources (i.e., state, federal, and local) and funds (e.g., food services, transportation, etc.).	☐
The state collects employee-level compensation data that include benefits.	☐
All resource datasets share common school, teacher, and student IDs.	☐
Student course schedule data contain a link between teacher and student IDs.	☐

II. The state processes and makes meaning of data to identify statewide challenges and opportunities.	
State Actions	**Completed**
The state links teacher effectiveness and student achievement data with student course schedule data.	☐
The state tracks expenditure and payroll data to a statewide chart of accounts that aligns with strategic priorities.	☐
The state tracks school-attributed expenditure data to individual schools.	☐
The state tracks expenditure and payroll data to the specific student types it serves.	☐
The state tracks teacher compensation data to the level of individual classes and students.	☐
The state creates school and district performance categories.	☐

III. The state organizes and reports resource data back to key actors to support strategic decision-making.	
State Actions	**Completed**
Student achievement by student and groups	☐
Teacher effectiveness across different schools and subjects	☐
Teacher effectiveness across different courses, students, and student groups	☐
District- or schoolwide expenditure patterns	☐
Per-pupil spending across different schools and student types	☐
Cost per pupil of different course offerings	☐
Individual attention for students (i.e., class size and teacher load)	☐
Academic time for students	☐

look exactly the same from state to state. The particular paths toward helping districts make more strategic decisions will vary based on each state's vision for reform. SEAs with a deep commitment to autonomy may choose to create an information platform through which all districts and schools can generate their own decision-support metrics using state-created frameworks or tools. Other states may opt to disseminate standardized metrics and detailed reports tailored to each district directly through a central reporting channel.

To get started on implementing these recommendations, states should conduct a self-assessment to ensure that they're collecting the necessary data; have integrated, non-siloed systems in place to analyze them; and then disseminate that information to districts in meaningful ways—or put the data and systems in the hands of district leaders to run the numbers themselves. In areas of weakness, the SEA can work systematically to close the gaps. (See *Figure 2*, page 11.)

These kinds of changes will require some reorganization within SEAs. In Georgia, for instance, ERS recommended that the SEA dedicate a team of both technology- and strategy-minded personnel to take ownership of resource datasets across departmental boundaries. This team would leverage existing investments in infrastructure in order to deliver the right data to the right people at the right time to execute effective decisions. With many of the systems in place already, ERS estimates that such an investment could cost as little as $800,000 per year—roughly 50 cents per public school student.

As with any change, stakeholder engagement is critical. From unions to parents, diverse stakeholders have raised questions about the potential misuse of state-collected data, particularly with regard to teacher effectiveness and student achievement. While these concerns are understandable, they often stem from a misunderstanding about how the data will be used.

To move beyond these barriers, SEAs must establish the value of this change for everyone. For teachers, SEAs should demonstrate that effectiveness data is a tool for continuous improvement, not punishment. For parents, SEAs should highlight the many ways that student achievement data can be used to help their child get the best possible education.

Conclusion

It's clear that the role of the state in public education is moving in new directions. The SEA has already shifted from an institution that provides resources and checks for compliance to one that holds districts accountable for student learning and offers flexibility when appropriate. The next logical shift would provide districts with more support, largely in the form of meaningful data and data analysis that could help local officials be more strategic.

Although this new work may be difficult at times, it will no doubt lead to better decision-making in schools and better resource allocation for students. For SEAs, providing data that can support and improve local decision-making may be their most important role. It would be turning straw into gold.

Endnotes

1. http://febp.newamerica.net/background-analysis/school-finance.

2. ERS District Analysis.

3. http://edexcellence.net/publications/the-state-education-agency-at-the-helm-not-the-oar.

4. Data Quality Campaign (2011, November). *From Compliance to Service: Evolving the State Role to Support District Data Efforts to Improve Student Achievement,* www.dataqualitycampaign.org/find-resources/from-compliance-to-service.

5. Hitch, R., & Fullerton, J. (2013, March). *SDP Review: Strategic Use of Data in Howard County Public Schools,* http://cepr.harvard.edu/cepr-resources/files/news-events/sdp-review-hcpss-data-use.pdf.

6. *Strategic Data Project. Learning About Teacher Effectiveness: The SDP Human Capital Diagnostic. Fulton County Schools, February 2011.*

Appendix: Sample Questions and Decision-Support Metrics

This table contains a sample of strategic principles, key questions, and decision-support metrics that align with local planning and resource-allocation processes. The planning processes are intended to identify priorities and guide each system's strategy for aligning resources with priorities. The resource-allocation processes reflect specific phases wherein actors examine efficacy of resource use and their strategic plans. Each process is carried out by relevant actors at the district or school level. Though the questions below are matched to specific actors, the actual stewards of these allocation processes will vary by district. "**D**" represents districtwide metrics, and "**S**" represents school-level metrics.

BUDGETING AND PURCHASING

Audience	Strategic Principle	Key Questions	Metrics
District Leaders	Ensure that district investments generate meaningful and measurable outcomes, and adjust policies and systems as appropriate.	• How is the district spending its money relative to strategic priorities? How does this compare to other districts? • How much is it spending on the central office versus at schools?	• Dollars per pupil ($PP) and percentage of expenditures by use and function[1] **D** • $PP and percentage of expenditures by sharing level[2] (i.e., school-attributed, shared services, and central office) **D**
School Leaders	Organize a combined set of jobs and partnerships to maximize resources that support teaching and learning.	• Is the school using creative staffing arrangements and part-time staff to provide non-instructional services at the lowest possible cost? • Does the school partner with outside resources where they could provide lower-cost and/or higher-quality services for students? • Are the schools matching the right people/roles with job responsibilities? How do compensation levels for various school-based positions compare to the compensation level of an average teacher?	• Student-to-teacher ratios by use and position type **S** • Percentage of non-instructional staff with .49 status or less by position type **S** • Operating budget by use and object type (e.g., contracted services, salaries, etc.) **S** • Average compensation and range by position type **S**

1. Use and function represent categories of school spending (i.e., instruction, pupil services and enrichment, instructional support and professional development, leadership, operations and maintenance, and business services).
2. Sharing level identifies whether dollars are spent at schools, shared among schools, or spent at the central office.

SCHOOL ALLOTMENTS

Audience	Strategic Principle	Key Questions	Metrics
District Leaders	Ensure that students with similar needs receive the same level of resources regardless of the school they attend.	• Does funding provide additional resources to support students with greater learning needs (e.g., special education, English language learner [ELL], low proficiency)? • How much variation is there in funding across schools? • What drives variation in school funding levels?	• Fully allocated[3] $PP by student type **D** • Percentage of schools within 20 percent of school-attributed $PP (adjusted and unadjusted for student need) **S** • School-attributed $PP by school characteristics (e.g., size, building use, student need, etc.) **S**

PORTFOLIO MANAGEMENT

Audience	Strategic Principle	Key Questions	Metrics
District Leaders	Actively plan school sizes and configurations, balancing student needs for effective programs with available staff, facility, and funding resources.	• Does funding allow equitable access to programs across neighborhoods? • Does the district make full use of existing facilities? • Is there a clear and cost-effective plan for staffing small and under-filled schools?	• Student enrollment by program and neighborhood (multi-year) **D** • Building use and school-attributed $PP **S** • $PP and percentage of expenditures by use and school size bucket **S**

LEADERSHIP & MANAGEMENT STAFFING

Audience	Strategic Principle	Key Questions	Metrics
District Leaders	Create a leadership development strategy that promotes growth and retention of high-potential school leaders.	• Based on evaluations, which school leaders need the most support? • Who are the district's best school leaders? Are we strategically placing them in the toughest assignments?	• Principal evaluations by school performance level and demographic characteristics (multi-year) **S**
School Leaders	Organize a set of jobs and partnerships to maximize resources that support teaching and learning.	• Are schools using creative staffing arrangements and part-time staff to provide non-instructional services at the lowest possible cost? • How are typical schools in this district staffed, and how does it compare to other urban districts?	• Student-to-FTE ratios by use and position type **S** • Percentage of non-instructional staff with .49 status or less by position type **S**

3. $PP metrics are fully allocated when all dollars, including central office expenditures, have been tracked to the level of students.

TEACHER HIRING AND ASSIGNMENT

Audience	Strategic Principle	Key Questions	Metrics
District Leaders	Create a strong pool of teacher candidates for principals to draw from based on identified characteristics of successful teachers as well as individual school needs.	• Are we getting more effective applicants this year than in prior years? Does this vary by grade and content area? • How many effective or highly effective applicants are we getting for hard-to-fill positions? How does this compare to prior years? • Which teacher-preparation programs and recruiting sources consistently tend to yield high-quality hires? • Which schools are most effective at hiring strong candidates? Which are in need of support?	• Number of incoming candidates by teacher-effectiveness level, subject, and grade (multi-year) **D** • Retention rate and distribution of effectiveness by recruiting source (multi-year) **D** • Percentage of new hires by effectiveness level and school performance level (one and three years after hire) **S** • Percentage of new hires by retention status (one and three years after hire) **S**
School Leaders	Create a comprehensive hiring plan that begins with an assessment of faculty and student needs and identifies key characteristics that the school is looking for.	• What are the school's gaps in teaching effectiveness by grade, subject, team, skill area, and proficiency with different types of students? • What is the school's track record in hiring effective teachers? Which new hires over the past three years have proven to be most and least effective? • What percentage of the school's vacancies are filled by the target date? How has this changed over time?	• Median and average teacher-effectiveness scores by grade, subject, and courses (snapshot) **S** • New hire teacher-effectiveness data (individual and distribution, one and three years after hire) **S** • New hire retention data (individual and distribution, one and three years after hire) **S** • Percentage of hiring decisions by month (multi-year) **S**

TEACHER TEAMING			
Audience	**Strategic Principle**	**Key Questions**	**Metrics**
District Leaders	Monitor the effectiveness of teacher job and team assignments across schools in order to create and refine districtwide teacher assignment strategies.	• Are teacher assignments differentiated to extend the reach of highly effective teachers through leadership roles or additional responsibility? • To what extent do schools provide sufficient collaborative planning time and expert support?	• Number of classes and students by teacher-effectiveness level (multi-year) **S** • Principal surveys • Average core teacher use or weekly collaborative planning time **D**, **S** • Teacher-to-coach ratio **D**, **S**
School Leaders	Assign teachers to jobs and teams in a way that distributes expertise strategically and builds strong and effective teams.	• Are there grades, subjects, courses, or student groups where the district lacks a sufficient number of highly effective teachers? • To what extent do teacher teams have sufficient collaborative planning time? • Are teacher assignments differentiated in order to extend the reach of highly effective teachers through leadership roles?	• Median and average teacher effectiveness by subject, grade, and student type/proficiency (multi-year) **S** • Average core teacher use or weekly collaborative planning time by subject **S** • Percentage of teachers by effectiveness level and teacher leader status **S**

PROFESSIONAL DEVELOPMENT			
Audience	**Strategic Principle**	**Key Questions**	**Metrics**
District Leaders	Ensure that schools have the instructional support and professional development resources that they need.	• Which principals and groups of schools need additional support conducting rigorous evaluations and/or more training? • How much is spent on direct professional growth, teacher time, and compensation for lanes? • In what development areas do novice teachers require additional support?	• Teacher evaluation rating by value-added scores (multi-year) **D**, **S** • Dollars per teacher by professional growth area[4] **D** • Novice-teacher-effectiveness data by subject and grade **D**, **S**
School Leaders	Guide teachers in developing individual professional growth plans in the context of school and team needs.	• Which of my teachers are in need of the most support, and in what areas? • How have individual teachers and teacher groups improved their teaching effectiveness over time? • Do I have teachers who are strong in the top areas of need, whom I can leverage to provide professional development for their peers?	• Teacher value-added data by subject, course, grade, and student type (multi-year) **S** • Teacher evaluation data by rubric domain (multi-year) **S**

4. Professional growth areas are defined as curriculum, evaluation, assessment, lanes, teacher time, and direct professional growth. For more information, see ERS' white paper *A New Vision for Teacher Professional Growth & Support* at http://www.erstrategies.org/library/a_new_vision_for_pgs.

WORKFORCE MANAGEMENT

Audience	Strategic Principle	Key Questions	Metrics
District Leaders	Create and maintain a system for retaining and leveraging effective teachers.	• What percentage of teachers leave each year? What is the distribution of teacher effectiveness among teachers who leave each year? • Where do highly effective teachers go when they leave a school or district? For those leaving for a different school, what are the characteristics of that school?	• Retention rate—overall and by teacher-effectiveness level (multi-year) **D**, **S** • Percentage of migrated teachers by employer type (i.e., non-school, school) **D** • Percentage of migrated teachers in schools by school characteristics (district, performance level, etc.) **D**
School Leaders	Make promotion and demotion decisions about which career tier each teacher belongs, based on performance and contribution.	• Are the teachers assigned leadership roles high performing? Of my top teachers, how many have leadership responsibilities? • Is each teacher at the appropriate career tier, given performance and responsibilities? • Of the teachers on the "at-risk" list for non-renewal, who should be managed out? • How many teachers left each year over the last five years? What were their performance levels and career tiers?	• Teacher-effectiveness scores by subject and role—individual and distribution (multi-year) **S** • Number of teachers by retention status and effectiveness level (multi-year) **S**

COMPENSATION & CAREER PATH

Audience	Strategic Principle	Key Questions	Metrics
District Leaders	Develop a compensation structure with a compelling value proposition that attracts, retains, leverages, and rewards a highly effective workforce in a fiscally sustainable way.	• Does the district leverage the whole value proposition to attract top talent? • Is the district's starting salary sufficient to attract a high-potential workforce? • Is the district's base salary competitive with local markets? • Does the district use its compensation system to leverage high-performing teachers to take on additional responsibilities and extend reach to students or colleagues? • Does the compensation system reward high-performing teachers?	• Ratio of local average "family living wage" to 10-year plus master's or equivalent teacher salary **D** • Cross-district comparison of starting salaries and average base compensation **D** • Percentage of compensation tied to differentiated roles, leadership contributions, or performance **D**, **S** • Percentage of teacher leader positions/stipends filled by highly effective teachers **D**, **S** • Percentage of teachers with above-median compensation by effectiveness level **D**, **S**

PROGRAM PLACEMENT

Audience	Strategic Principle	Key Questions	Metrics
District Leaders	Provide additional resources to support students with greater learning needs.	• How does the district's relative spending on each student type compare to that of other districts?	• Cross-district comparison of student type (i.e., SWD, ELL, free and reduced-priced lunch [FRL], gifted) spending per pupil by use and function **S**
School Leaders	Ensure that students with disabilities (SWD) and ELL students are placed in appropriate settings and that the right investment is made in instructional quality.	• What are special education group sizes compared to mandates? • To what extent do student demographic factors affect SWD placement? • What is the teaching effectiveness of special education/ELL staff, as compared with average teaching effectiveness? • How do time, individual attention, and teaching effectiveness (TE) vary for ELLs?	• Cross-school comparison of special education fill rates **S** • SWD as percentage of total enrollment by student ethnicity and grade **S** • Percentage of teachers by effectiveness level and student type **S** • Percentage of time and average class size by student type and subject **S**

SCHEDULING

Audience	Strategic Principle	Key Questions	Metrics
District Leaders	Monitor districtwide scheduling practices to ensure that schools maximize academic time for students.	• Have schools adjusted time on the basis of a rigorous assessment of student need/performance improvement? • Where the district has invested in additional time, is the time used effectively? • Do schools give struggling students more time in the subjects in which they are struggling?	• Percentage of time by student proficiency and subject (snapshot) **D**, **S** • Percentage of time by subject and grade (snapshot) **D**, **S** • Percentage of time with an effective or highly effective teacher by subject (snapshot) **D**, **S** • Percentage of time by student proficiency and subject (snapshot) **D**, **S**
School Leaders	Create student schedules that organize time strategically and vary based on student needs.	• Are the schedules in place aligned with the needs of most students? • Do struggling students receive more time in the subjects in which they are struggling? Do they have enough time to engage in enrichment courses that contribute to their overall engagement? • What is the percentage of time that a typical student spends on core academics? And on specific high-priority subjects relative to other areas?	• Annual student hours by subject **S** • Percentage of time by subject and grade—overall and by student proficiency (snapshot) **S**

STUDENT GROUPING			
Audience	Strategic Principle	Key Questions	Metrics
District Leaders	Empower each school leader to organize resources to support his or her chosen instructional model and student and staff needs.	• Given the overall amount of time in the day or year, how important is adding more time to the day for some or all students? • Has the district meaningfully prioritized class-size investments to high-priority areas?	• Cross-district comparison of annual student hours (snapshot) **D** • Average cost of class and class size by subject and student type (multi-year) **D**, **S**
School Leaders	Create targeted individual attention, organize time strategically, and organize teaching talent to maximize student learning.	• What is the distribution of cost per class by school, subject, and student type? • Are class sizes and teacher loads reduced in high-priority subjects and/or for high-priority student groups? • To what extent are we ensuring that students do not have ineffective teachers two years in a row? • Do struggling students receive more time in the subjects in which they are struggling?	• Average cost of class and class size by course name (multi-year) **S** • Average cost of student schedule by student type (multi-year) **S** • Average class size and teacher load by subject, grade, and student type (multi-year) **S** • Teacher-effectiveness data by student—individual and by proficiency level (multi-year) **S** • Percentage of time by subject and grade—overall and by student proficiency (snapshot) **S**

Getting there

While there is no single path to educational transformation, ERS' School System 20/20 provides advice, tools, and publications to help align school system resources to strategic priorities, so that every school succeeds for every student. *Spinning Straw into Gold* is one of many publications designed to guide education leaders toward that goal and specifically targets the state role. Based on experience with school systems across the country, School System 20/20 identifies seven key areas for district transformation and documents the specific policy and resource-use changes critical to each. The framework includes self-assessments to help district leaders evaluate performance and track progress toward success for all.

For more information, go to ERStrategies.org/strategies/system_2020.

ERS tools help you restructure resources—people, time, and money—to improve student performance. Created from ERS' work with districts across the country, these tools help identify opportunities and guide urban leaders in transforming school systems. Find the following, as well as self-assessments, analyses, videos, and more, at **ERStrategies.org.**

School System 20/20
Explore the Seven Areas for District Transformation

System2020.org

School Budget Hold'em
Play the online game and learn how districts can invest in kids and still meet their bottom line.

ERStrategies.org/hold-em

School Design in Action
Explore how schools are making big gains by transforming how they use people, time, and money.

ERStrategies.org/action_strategies/school_design_in_action

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ERS is a non-profit organization dedicated to helping urban school systems organize people, time, and money to create great schools at scale. **For more information, see ERStrategies.org.**