



STRATEGIC **DATA** PROJECT

SDP REVIEW: STRATEGIC USE OF DATA

Howard County Public School System

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Introduction

Schools, districts, and states collect immense amounts of data. Districts today are gathering more information about students, teachers, and schools than ever before. Federal and state regulations require increasing levels of accountability and compliance reporting. Despite the collection of this data, much of it is left untapped for policy development, strategic planning, and management.

We believe that strategic and management decisions made at the district level can fundamentally influence the capacity of schools and teachers to improve student outcomes. We also believe that rigorous analysis of available data is critical for wise decision making. Over the last 50 years, whole sectors—such as manufacturing, health care, public safety, and even professional sports—have been transformed through increasingly sophisticated analyses of the vast amount of information they collect.

In education, however, data too often are not analyzed to inform policy, strategic management decisions, or curriculum changes. If the education sector could better harness the existing data and thoughtfully apply the insights that the data reveal, we believe student outcomes could be significantly improved.

Review of Strategic Use of Data in Howard County: Goals and Methods

In July 2012, Dr. Renee Foose, incoming superintendent for Howard County Public School System in Maryland, engaged the Strategic Data Project (SDP) to conduct a review of data use in Howard County in order to gain an objective and thorough understanding of how the Howard County Public School System (HCPSS) currently uses data at the system level.

The three main objectives of the review process were to:

- **Highlight HCPSS strengths and best practices** (uncover where HCPSS is effectively using data and analysis, and where it could replicate or expand what works);
- **Identify opportunities** (find important short-term actions and long-term strategies in data use and analysis that could provide the district the most leverage in improving decision making and, ultimately, student achievement); and
- **Recognize challenges** (identify significant barriers and obstacles impeding the district's progress, focusing on places where changes in approach or additional resources would provide the most leverage to drive improvement).

Project Methods

To undertake this assessment of Howard County's data use, the SDP team interviewed staff and leadership, conducted a focus group with principals, and reviewed relevant HCPSS documents and systems. The guiding principles for the assessment were provided by SDP's Strategic Use of Data Rubric. More details on these methods are provided in Appendix A.

The bulk of the information utilized in the assessment was provided through a series of interviews with HCPSS leadership and staff that were conducted during two site visits. In total, the SDP team interviewed 23 senior staff members, including the full executive leadership team, all of the current and one former board member, and the superintendent (see Appendix B for the full list). Each interview was 45 minutes long and was conducted by one or two SDP staff members. The discussions were intended to provide the SDP team with insights into

how HCPSS operates and uses data. Each interview began with interviewers asking interviewees to describe their role at the district, and to explain how they typically used data and analysis to get their work accomplished. Using the components of the rubric as a general guide, SDP interviewers then probed each interviewee for further details and examples in one or two specific areas of operations from their expertise.

The SDP team also held a focus group session with eight principals. The focus group included principals from three elementary schools, two middle schools, and three high schools, chosen by district leadership as a reasonable cross section of the system as a whole. At least one of the schools was a Title I school. During the two-hour discussion, attendees described their use of HCPSS data and data systems, and provided input and recommendations for system improvements.

Finally, the team examined internal HCPSS documents and received a guided walk-through of two online systems (School Improvement Plan and InRoads) for additional evidence on data accessibility and data use.

This assessment was conducted to identify opportunities and areas of potential improvement for HCPSS. As such, it is not a formal research study but an assessment intended to provide actionable information and insight into the system and community.

Project Rationale

Although Howard County is a high-performing, well-financed district with strong community support, HCPSS faces several challenges that require improved internal use of data and analysis.

- **While overall HCPSS performance is very high, achievement gaps between different demographic groups are large.** According to SDP’s recent analysis of student achievement levels,¹ while overall district performance has trended positively over the past several years, this has masked important differences between groups of students. For example, “while 44% of students in the class of 2012 took at least one AP exam ... , only 17% of students eligible for reduced price lunch (FARMS) take at least one exam as compared to 49% of non-FARMS students.” With a rapidly changing student population, HCPSS will need to consider the needs of all students to continue achieving success.
- **Changes resulting from Common Core State Standards and the Partnership for Assessment of College and Careers (PARCC) assessments are close on the horizon.** The concurrent move to the Common Core State Standards represents a new set of expectations for students and schools, and the PARCC assessment is a new way to track and monitor student progress and success. All levels of the system will need to use data to understand what is working in the implementation and what is not.
- **The data demands placed on the system by external forces will continue to grow.** Federal initiatives that depend on links between teachers and student outcomes, especially teacher evaluation and data-driven individualized learning, will make even further demands on HCPSS data and systems. HCPSS needs to be prepared both to satisfy these new requirements and to leverage the data that result.

¹ Strategic Data Project, “A Review of Student Achievement and Participation Trends in Howard County Public Schools” (April 2013)

As one staff member stated, “In the past, we didn’t really focus on data. We are a high-achieving school system, so it wasn’t considered particularly important. With the increasing scrutiny and higher standards in place, ... this is a great time to bring about the level of data consciousness that is needed now.”

What Does Exemplary Use of Data Look Like?

Before examining the current state of Howard County’s strategic data use, we describe what exemplary data use could look like. Note that “exemplary” is an ideal. While some districts are exemplary in some areas, no U.S. education system, at least that we are aware of, is exemplary across all areas.

Major Initiatives and Programs

The district has a clear, focused strategic plan that clearly informs and aligns all major initiatives. This tightly aligned strategy includes goals, targets, timelines, and responsibilities for different departments and schools across the district. Targets are based on data analysis and projections of what is possible. Relevant management data are housed centrally, and easily available to managers and stakeholders. The data are used to regularly analyze and compare programs in terms of impact and cost-effectiveness. Rigorous analyses and predictive analytics drive program-related decisions. Evaluation plans exist for all major programs/initiatives, and their results explicitly inform decisions made by leadership, including whether to start, expand, or end the programs.

Performance Management

The district has a regular and consistent process to review departments and school progress in reaching district goals. This process has clear targets that are internally consistent and S.M.A.R.T. (specific, measurable, attainable, relevant, time-bound) throughout all levels of the organization—from the central office to schools and teachers. These targets are set using a clear process that is informed by a robust fact base and rigorous data analysis. District data used to measure performance are centrally managed, accessible, and accurate, and provide multiple users a consistent answer to the same question. The data are available in real time, at multiple levels, and in ways that can be easily manipulated. System and school performance is monitored and measured regularly, based on clear and understood metrics. When performance issues are discovered, data are used to guide strategy development and course corrections.

Budget

The district budget is established using a multiyear planning process that is driven by district strategy. The process to establish the budget is well understood across the district. Line item additions or reductions are aligned to strategy and are considered together, not individually. Budget requests are supported by robust, evidence-based justifications, including the relative costs of the request and expected return on investment. Analyses are used to rank requests in terms of priority. Sophisticated financial analyses (e.g., zero-based budgeting or activity-based costing techniques) are used to review spending and departmental budgets. Departments are held accountable for both expenditures and outcomes, and financial reviews are linked to outcomes that directly impact future budgeting decisions.

District Governance

Board discussions are driven by a clear strategy and an agreed-upon set of outcomes for the school system, which are measured by a balanced scorecard approach. The board has defined and agreed upon performance targets, which it uses in regular reviews of progress on agency outcomes and goals. It demands and uses insightful data and analysis in planning and goal setting. The policy recommendations and presentations to the board are clear, analytically sophisticated, and data rich; alternative options are presented; and the staff members are prepared to

answer second- and third-order questions about the analyses. Board decisions are informed by data and include an evaluation of expected outcomes and a consideration of alternative scenarios. The board has the relevant expertise to understand the different types of data and analysis presented to them and asks meaningful, relevant questions about the data.

Overall Findings

Achievement levels in the Howard County Public School System have consistently been among the highest in Maryland, yet many interviewees feel that HCPSS is capable of performing at an even higher level. As one leader put it when discussing HCPSS's use of its current technology, "it's like we're driving a sports car at 10 miles per hour."

Below, we describe HCPSS's strategic use of data across each of the four areas of the Strategic Use of Data Rubric: major initiatives and programs, performance management, budget, and governance. We highlight HCPSS's main strengths, promising opportunities and important challenges to enable Howard County's superintendent, board, and executive leadership team to set a path to help the district use data more effectively. The following is an overview of the more detailed results.

Strengths

There are processes of data use already in place that are working well, and opportunities to replicate or scale some of these across the district. HCPSS staff seem highly committed to their roles and to the district, and are interested in continuous improvement. With this enthusiasm for providing high-quality service, some have independently developed good practices of data use and performance management. The process built to support school improvement planning, for instance, with its online template and a wealth of data-derived targets, is one example of HCPSS already using data across the district to set goals and manage performance. The School Improvement Plan (SIP) process is supported by data systems and bolstered by an almost universal participation by leadership at the schools. There is also a culture of strong cross-departmental participation (special education, curriculum, student services) in developing plans and targets at the school level.

The appetite for data and analysis is increasing in the district, and employees are interested in using data more actively and accessing data systems that can provide predictive or diagnostic information. One division head stated, "I am using InRoads [HCPSS' internal system that compiles student demographic and assessment-level data] as soon as data come out. I think principals by and large do too. I want data at my fingertips. I eagerly anticipate release of results." Overall, the demand for data and analysis has continued to increase, as evidenced by the use and consumption of data in pockets of the central office and at the leadership level at schools. As such, HCPSS seems poised for a much more comprehensive use of data and analysis in planning and management.

Opportunities

Although the district does not have a strategic plan, the Bridge to Excellence (BTE) plan, a 300+ page compliance document, is serving to focus district management on specific outcomes and could serve as the starting point for developing a comprehensive strategy. HCPSS leadership uses Goal 1² and Goal 2³ from the

² "Each child, regardless of race, ethnicity, gender, disability, or socioeconomic status, will meet the rigorous performance standards that have been established. All diploma-bound students will perform on or above grade level in all measured content areas."

³ "Each school will provide a safe and nurturing school environment that values our diversity and commonality."

BTE effectively and extensively to organize goal and target setting across the district, from departments to the schools. All staffers we met with were knowledgeable about and focused on these two goals. What is missing is a clear strategy—an integrated set of actions for HCPSS to achieve its goals. In addition, the goals themselves may be set too low. The vast majority of students in Howard County are already “proficient.” Significant gaps remain, however, when we look at students performing advanced-level work.

While the School Improvement Plans serve as a basis for performance management for individual schools, central office departments do not have a similar performance management process in place, although departmental leaders are open to developing one. As noted above, the Bridge to Excellence provides loose organizing categories for performance management, and some staff members have tried to find ways to link their operational goals to the BTE goals. However, there are few clear metrics for central department operations and no clear strategy with which to link them. As a result, there is little formal performance management at the central office level.

The adoption of a strategic plan and improved use of data to support policy recommendations can result in increased trust, and more effective collaboration between the HCPSS board and staff. There is an opportunity to use data to create a virtuous cycle in governance that can serve the district and the community well. A strategic plan that provides clear statements of priorities, targets, and measures of progress can serve to focus governance discussions on what all have agreed are the most critical points of data. This can be supported by HCPSS staff continuing to improve in its provision of high-quality, well-prepared data and analysis to the board. As the staff develops improved ways to keep the board informed with relevant data and analysis, board members will be able to base their decision making directly on more concrete evidence. At the same time, HCPSS staff will benefit from more productive collaboration with board members and increased levels of trust in their recommendations. This will give board members confidence that they have “the facts and the context to explain our position ... and to be able to present it to the community to help them understand.”

Challenges and Threats

Howard County has both data system and personnel capacity obstacles that currently hinder its ability to use data more strategically. Homegrown, siloed and inflexible data systems, along with limited numbers of analytical staff hinder the district’s ability to strategically manage data. The InRoads system has provided a strong foundation for centralized data storage and access, but it was not designed for system-wide usage and will face challenges in transforming from “canned” report generation to real-time dynamic report generation. The lack of one central system that stores data and enables wider access to data has created inefficiencies and frustrations in both central staff and school leaders. Further, some data systems, such as ASPEN and various systems in human resources, have accuracy and reliability issues that make users reluctant to rely on them. Finally, staffing levels in budget and research and evaluation (particularly assessment and program evaluation functions) could limit the ability of HCPSS to support the needs of a more data-driven organization.

Howard County’s historical success and high overall performance may have created a “culture of complacency” that has kept the district from digging too deeply into rising issues. As one administrator put it, “there needs to be a culture shift to tolerate bad news.” This resistance partly results from some of the district’s assets, such as its high average assessment scores and high ranking within the state. These are, of course, positives for the county, but, as noted in SDP’s accompanying analysis of HCPSS’s achievement gap, there are still significant challenges. High average scores mask variations across students and groups that are falling behind.

Observations by Area

Major Initiatives and Programs

This section describes how data are used to inform decisions to develop, operate, and manage the major initiatives and programs of Howard County. We looked at the Bridge to Excellence plan, and the goals and outcomes that help the district measure progress. We also examined how the district uses student data to measure and understand program outcomes and impacts. Finally, we considered how programs and initiatives are evaluated, and what decisions result from these evaluations. Major points of interest and specific observations of relevance are described below.

- **The main document that staff refer to for district strategy, the Bridge to Excellence, is a compliance and target-setting document, not a strategic plan.** Management staff members do largely use the framework of Goal 1 and Goal 2 to situate their work and priorities into the overall organizational picture, although, as one leader noted, “every school leader can see themselves in Goal 1 and Goal 2, but how do you translate these for each department?” This framework could be the foundation for developing a strategic plan in the near future.
- **Data are beginning to be stored centrally and standardized, and access to this data is improving.** Demand for and use of the data by staff in the central office and by leadership at the schools is increasing; however, overall school-level use is still lagging and is relatively inconsistent. One principal noted that how they used data “depended on the day that was in front of them.” For some situations, like preparation for parent-teacher meetings, principals regularly go to InRoads to print out reports. In others, files are still maintained in hard copy, such as the record of an AP teacher’s performance from a prior year, or are only maintained at the school level itself, such as benchmarking test results to measure reading progress. As a result, it is impossible in these areas to examine system-wide trends.
- **Multiple data systems are used to track central operations, and these data are very often isolated in silos.** There are formal systems for transportation and for teacher applicant tracking that are only accessible within the relevant departments, and there are multiple informal tracking systems created by “people who have exported data and used it to do what they need to do.” One department head explained that data was siloed even inside his own department: “The day-to-day information reports ... are kept within each area. I get the overall reports, but not the details.”
- **Data from school operations that are important to drive decision making in the central office are not always accessible in a standard way.** One staff member responsible for translating school operations into long-term plans noted that “things happen within the schools that don’t get translated across the organization.” For instance, without a central system that keeps track of how principals allocate space for new resources, central office plans for space may unintentionally deviate from how space is actually being used by principals. As a result, “we use only historical information to make our future plans—not reality. And we get a pretty big mismatch.”
- **Data can also be hard to assemble across silos, and some issues remain with data accuracy and overall use and familiarity with systems.** For example, “when I needed to produce a report for the board, my staff used Excel and gathered information from teachers [and] principals, pulled from state of Maryland data, and pulled MSA [Maryland School Assessment] data from InRoads by hand.” There are also some remaining issues with the accuracy of the data, and the current data systems are primarily set up to generate static

reports, not to facilitate dynamic, real-time analysis. Finally, according to staff members most familiar with the data and systems, much of the rest of the organization still does not know or understand fully the depth and breadth of the available information or how best to access and use it.

- **Most current programs and initiatives are not explicitly connected to an overall strategy or set of expected outcomes, and little to no program evaluation is currently done.** When evaluations are done, “they are never published or shared beyond program staff. I would call all of this ‘program-evaluation lite.’” Many programs do not have a robust enough theory of action to be able to understand what effectiveness would look like, and to define expected program impacts on schools and students. This results in a reliance on gut feeling for program evaluation—“we’ve seen [improvement] in achievement in reading and math. We think these results are due to the new ... policies. I feel like we’re doing the right thing.”—rather than a robust use of the evidence. Finally, without clear criteria to evaluate one option over another, leaders have had to make prioritization calls as best they could.

Performance Management

This section reviews HCPSS’s use of data to manage performance. We review the ongoing management structures in place at HCPSS, how data and analysis are used to evaluate the performance of schools and central office departments in the district, how targets are set, how performance is measured, and the ways that these processes are integrated into ongoing management and decision making in the district as a whole. Major points of interest and specific observations of relevance are described below, separated into sections that outline processes and data systems.

Performance Management Processes

- **Tools such as the School Improvement Plan (SIP) tool are building a performance management culture for schools.** The goal stated in the SIP’s Implementation Manual for School Improvement Teams 2012-2013 is that the SIP process will be used for “ensuring that all members of a school improvement team are fluent in the process and terminology associated with analyzing their needs assessment; determining root causes; and developing objectives, strategies, and activities to close gaps is essential to achieving the new system targets.” It appears that action toward achieving this goal is beginning to occur at the school level. Using the SIP to establish goals is helping stakeholders understand how to utilize data to manage progress to goals. One divisional leader explained, “When I go out to schools [for regular progress-monitoring discussions], I meet with math and reading support teachers, and we look at data. We download the data and review the school improvement plans.”
- **A foundation for a data-driven approach to target setting has been built into the School Improvement Plan process.** One leader explained, “What we had been holding schools accountable for and reporting out on was not meaningful. So we created new targets that represent the level that schools are currently at, then established stretch goals for the school. We did so by pulling a couple of years of data ... landed on targets that would move us forward and populated the School Improvement Plan with real-time data.” However, the above applies to targets such as pass rates in High School Assessments (HSAs) for diploma-bound students or participation rates for advanced level programs. Other targets such as percentages of student groups meeting or exceeding state Annual Measurable Objectives (AMOs) are based on state requirements rather than local analysis. Still others, like the system-wide attendance rate target of 94%, seem to be one-size-fits-all and have little relation to local context or historical performance.

- **These school-level tools and processes are working to drive a regular use of data by school leaders.** Most of the focus group principals found the online SIP to be an impressive and helpful tool, and also praised processes like the Classroom-Focused Improvement Process (CFIP), which help to inject a regular use of data into planning and operations. They noted that as the online interface with the SIP has gone live this summer, the plans themselves are becoming “more of a living document” used by teams within the schools rather than a static compliance document produced to fulfill regulatory requirements. Some noted, however, that it “falls to us to be instructional leader to follow it through” for ongoing use, and to do so, they “need more time for real reflection.” One additional benefit of the SIP process is a strong relationship between school leaders and central office leaders, who the principals noted to be “very supportive and helpful resources.”

This SIP process is not necessarily viewed as consistently effective, however. The least effective area of school-level performance management was its ongoing monitoring of schools. Principals noted that these targets are used very often for within-school management but are less often utilized (once completed at beginning of the year) for management discussions with central administration. One noted that you get a “red box” when you don’t reach Annual Yearly Progress (AYP), but “without that flag, there is less accountability. No one comes back to you to review your SIP targets and goals.”

- **Central office departments are not held to the same performance management standards as schools, and strategic alignment across areas is only beginning to emerge.** Several staff members explained how they had created performance management plans for their own departments or functional areas, but these were often not tied to other aspects of the organization. In the words of one staff leader, “there is nothing like the SIP for central offices or for departments/programs. Instead, we have to come up with plans for how we intend to address Goal 1 and Goal 2, but our plans don’t look like SIPs. The main goal ... is for every leader in the offices to see themselves in Goals 1 and 2 and then speak to how their work relates to that, but what I’ve seen is that most people get away from the overall plan and do what they do.” Some central staff members cited the progress made via the cross-functional teams established a few years ago, which improved communication and alignment across internal silos. They also noted that these structures hadn’t yet “translated into integrated outcomes and evaluations,” but they did show some promise of doing so.

Data Systems

- **Data systems and internal support structures are not yet adequate for effective strategic data use and performance management.** InRoads is a custom-built, specialized solution that has adequately filled the district’s needs for a central system to access school and student data until now. Unfortunately, it has limitations that keep it from being usable for predictive and more rigorous analysis. For example, data is only available in prepopulated forms or in reports that cannot be manually manipulated by the end user. Furthermore, there are several issues with reliability, accuracy, and quality of data, often related to the different points of entry for the data and the multiple systems from which data are extracted. As a result, both principals and central leadership cited some reluctance to fully rely on or trust the data, particularly the student data found in ASPEN.

For instance, a recent issue arose in the merging of special education Individual Education Plan (IEP) data from its main data system, TIENET, with the main student data system, ASPEN. The result was a miscount of special education students reported to the state. Both executive leadership and a technology manager noticed this issue immediately and were able to address and reconcile without repercussions to the district; however, the data systems do not automatically flag such data issues.

- **Use of data systems like InRoads is increasing, particularly by central office leadership staff.** However, the data housed in InRoads are not interactive enough for easy administrative use, nor do they always provide the information needed for the staff using it. “I often need ODW, ASPEN, InRoads, and SWISS to get a full

picture of a student,” stated a member of the special education team. Principals echoed the same point. They use most systems regularly and as a standard way of doing business at the schools; however, they found the overall process labor-intensive rather than user-friendly and would much prefer one central system that houses all of the data they need regularly. In particular, principals found the multiple system entry points and separate logins especially onerous to handle, and they repeatedly requested one central data system as a high-priority improvement: “I have five different logins for five different types of information. It makes me not want to use it at all, and I’m sure it’s the same for teachers. I’d much rather have a one-stop shop.”

- **Schools rely less on InRoads data than central office staff, leading to discrepancies and time lags.** One staff member noted, “There is little incentive for the schools to be accurate in data entry. We’ve heard from the schools that central reports are only valuable to central offices.” Because the responsibility for accurate data entry is at the school level, accuracy may vary widely; schools that are more data-driven and use the data entered into InRoads are naturally more diligent about accuracy. Schools that enter data only for district compliance purposes may be less diligent.

A specific example cited repeatedly was the reporting of local assessment data. Local assessments are scored using Scantron cards at the school site level. The process to get results from Scantron machines at the school into InRoads is complex and can result in corrupted student IDs. Without clear incentives to be accurate or timely, the current process results in multiple data issues in InRoads. One staff member explained, “Teachers get their Scantron results [of local assessment results] directly at the school, so they don’t have any need to go to InRoads to do anything else with that information.” As a result, central access to local assessment data is delayed, and central office analysis of performance by student subgroups may be unreliable.

- **Human resource data and systems are particular areas of challenge, especially for principals.** On the whole, HR data are perceived as nonsystematic and hard to use. In particular, principals noted the online application process was very hard to follow and highlighted the inefficiency of a process where résumés for nonteaching staff had to be accessed in hard copy at the central district office. Finally, there are significant issues involving data on open positions and candidates for those positions. Principals noted in particular that data systems seemed to contribute to this issue, creating long lag times in hiring processes.

Budget

This section evaluates HCPSS’s budgeting process and financial operations to understand the district’s ability to allocate resources in a manner informed by data and analysis. We look at how financial planning and budgeting processes are conducted and integrated into the overall educational strategy. We examine what information is used for reallocation of resources and how decisions are made between various budget requests. Major points of interest and specific observations of relevance are described below.

- **The current budget document itself is organized to comply with state reporting formats, not necessarily management needs.** The budget is organized with “categories that legally [Local Education Agencies] are obligated to report under, ... set up because the state wants it reported that way.” These categories do not necessarily provide strategic insight into how money is being spent, where, and on which students.
- **Connections between financial data and student or other operational data are not regularly made.** Finance staffers do not often work with student data, nor are they provided regular access to ASPEN—although when they do get access and use it, they quickly see the value that it can add. One staff member

noted, “Last year I used ASPEN to see enrollment numbers, which I then sent to account managers. They couldn’t pad their budget anymore. Most were appreciative to have actual numbers.” The fact that ASPEN is not routinely used means that program budgets are not linked to per-student costs or student outcomes, at least during the budgeting process itself. The amount of funding for current programs is not tied to its level of effectiveness in producing intended student outcomes.

- **Structural issues make it challenging to link funding levels and the allocation of resources.** Most central office spending amounts are calculated “based on standard staffing ratios ... how many students are served.” There have been few attempts to put program spending on a per-student basis, both due to lack of prioritization and system capacity. One staff member noted that “it would be hard to figure out the cost per student, and right now people aren’t asking for that information. We could set up systems and processes to do it, though, if it were a priority.”
- **Without a built-in process to weigh relative costs and benefits to budget items, the district cannot easily make major strategic adjustments and reallocations in the budgets.** Instead of creating a direct link from funding to outcomes, executive leadership has attempted to create alternative methods to help prioritize budget requests or adjustments. For example, a “cross-functional team to determine high-level strategies” and a process built into the “chief’s meeting, [where budget requests] are sorted into three tiers of need,” have been utilized to sort through the various demands on the district’s resources.
- **There are not enough staff members in the budget office to adequately handle the type of analysis work that would be needed to support a more flexible and strategically aligned budget process.** Currently, there are only two staff members responsible for the process to produce the \$850 million budget of the district. The amount of work currently performed by this staff is already impressive. Additional staff would clearly be required to perform the analyses needed to move beyond the current incremental approach to budgeting.

Governance

This section examines how the HCPSS Board of Education receives and uses data in its policy-setting and oversight role. This includes how the board uses strategy and measurable outcomes to evaluate the system’s progress, the channels and the quality of the information the board receives from staff, and how the board uses evidence for decision making. Major points of interest and specific observations of relevance are described below.

- **HCPSS does not currently have a public and agreed-upon vision and strategy that can serve as systematic ways to prioritize and monitor goals and outcomes.** Board members are devoted to the success of HCPSS and expect the district to continue to excel. This provides a strong foundation upon which to build a strategy. Further, the Bridge to Excellence has provided a basic structure to monitor outcomes. One board member noted, “The Bridge to Excellence shows us all the data that we have; it shows performance areas and gaps, and includes the data that we need to set goals for where we want to go over the next five years. ... The data have always been there. It’s just a case of pulling it out and putting it in the right direction for our usage.” However, the current BTE goals are broad and difficult to measure, are often too low to encourage progress, and don’t point to a clear pathway for achieving objectives. The current strategic planning process should allow for a more focused way to measure progress.
- **Proposals and recommendations made to the board are largely considered independently from each other, resulting in little comparison and prioritizing.** Right now, there is no systematic evaluation of different policies’ or investments’ relative impacts. Instead, proposals are supported by anecdotes or one-

off examples; programs are evaluated based solely on “satisfaction” surveys rather than student-, teacher-, or school-based outcomes; and the only feature usable to differentiate proposals is cost (but not necessarily cost per student). One board member explained, “If we think that [a program] is important for students to be prepared, then we go for it. Then we prioritize [between programs] based on cost.” The board is making progress in this area. The recent revision and implementation of Policy 2020, a board rule governing policy making, requires the staff to “identify existing data sources to guide policy development and revision as appropriate,”⁴ and then to continuously monitor policies and their implementation with reports that “link data sources to policy implementation.”⁵ The next step would be to agree upon a standardized set of data sources and other measurable evidence that will be used regularly to support recommendations and monitor outcomes.

- **There is a growing demand for data across the board but not yet an accompanying agreement on what the relevant data are and how to use them.** Some board members noted that they would prefer to have more access to “the information they need for oversight,” yet they are not always as clear on what data they are seeking to obtain. One board member stated, “Any time you share data, [the board] would be happy. But they don’t know what they need to know, and most don’t yet know what data they really need to see.” There is not yet a shared understanding of what data are adequate to support recommendations and make decisions. Anecdotal evidence or an individual example may be used to support major policy changes or resource allocations, where more rigorous data could have been brought to bear. Further, in the past, HCPSS staff may not have provided as clear an understanding of what data are available and what data do not exist.
- **Historically, staff presentations highlighted “good news” and favorable information to support staff recommendations.** Over time, staff members had become reluctant to present to the board, believing that they would be strongly challenged. One staff member described, “I had to be very careful in how I framed anything ... because the more information you provided, the more convoluted and the muddier the discussion got.” Combined with a general reluctance across the district to uncover what was not working, presentations to the board did not often include evidence contrary to recommendations, nor discussions of alternative courses of action. As a result, “recommendations seemed to be sales pitches, and we were making decisions off of selling points.”
- **Presenting board members with relevant evidence and appropriate alternatives earlier in the process is beginning to build stronger buy-in with decision making.** Staff and board members noted that Dr. Foose is already moving in this direction by sharing information more actively during the process of policy discussion and deliberation. Several board members noted that Dr. Foose has been willing to provide them with a more nuanced understanding of the issues. One board member noted, “We’ve always said, ‘We are the best in Maryland,’ but no superintendent before Dr. Foose has been willing to say, ‘We can do better.’” For instance, the way that Dr. Foose and the leadership team addressed the proposals for redistricting galvanized both staff and board members, and signaled that there would be a newer way of considering district issues. One board member stated that Dr. Foose “made a tactical change with a huge impact by saying ‘this isn’t working.’ ... It was shocking. And thrilling.”
- **The regular reports to the board have varied in effectiveness, but HCPSS staffers are making progress in devising new, effective ways to communicate data to the board on a timely and relevant basis.** In past years, staff delivered the board BTE reports that board members referred to as “data dumps,” which

⁴ Policy 2020, Jan 2012, Item IV.I.1.c.

⁵ Policy 2020, Jan 2012, Item V.E.

provided data in immense detail but did not adequately highlight or explain what the data meant or which parts were most important. Some board members saw this as less “digestible” than if this information were provided with interpretation in targeted and clarified reports. For example, “the reports that we receive are often too much. Sometimes when you have so much data, you don’t know where to begin in a discussion.” Further, some noted board members “often ask[ed] for data, not remembering that they’ve already received it six months ago,” increasing work for staff. Process changes instituted under Dr. Foose, such as a policy to share critical data with the board immediately after receiving it in house, have begun improving these communication channels, keeping board members more informed than previously and helping to build trust between the board and the staff.

- **Inconsistent processes to request and obtain data hamper effective communication and trust building.** Staff members noted that board members sometimes do not follow the approved procedure to request information from staff, and, as a result, the same request can come in to multiple staff in different parts of the organization. This has hindered the ability of the team to respond effectively, and, because different staff may use different data definitions or data sets, it may also decrease the quality and comprehensibility of the data that board members do receive. Staff also noted that requests sometimes “exceed what is reasonable to produce with current resources,” and that these data are then provided to the public without accurate or adequate contextual information. Some board members recognize this as an issue and are interested in creating more clarity and coordination among themselves in making data requests.

Suggestions for Near-term Actions and Long-term Goals

This section describes potential actions and goals that HCPSS leadership should consider to help the district make progress in its strategic use of data. These recommendations are based on the interviews and documents reviewed, and some of these ideas will be more challenging to implement than others. We have separated these suggestions into priority levels, which are then divided by time frame. We also note where actions have already been undertaken under the new administration.

High-priority Items

Near-term Actions

- ★ **Create an actionable strategic plan with clear priorities and measurable process, output, and outcome goals (*under way*).** The plan should incorporate a set of interlocking and mutually reinforcing actions and programs that delineate the path to achieve a revised and more specific set of district goals. Goals should create cascading alignment across the whole district. The development of this plan will allow for strong performance management and clear prioritization in major initiatives, evaluation planning, and the budget process. It will also provide guidance to the board in its governance of the district, including providing clarity for staff on the right data to provide to support evidence-based decision making by the board.
- ★ **Build a process for central office performance management.** Use the strategic plan to establish and align operational measures that are relevant for central office functions. Establish similar upfront planning and target-setting discussions backed by analysis.
- ★ **Build and improve the “real-time analysis” and reporting functions of data systems (*under way*).** While some development and pilot functions (e.g., Sandbox and/or Dashboards) have been built to try to add some manipulation of data in InRoads, the system is not big enough or flexible enough to handle more sophisticated tasks or wider usage. Leaders should consider whether to supplement the current system or build or purchase a new and more adaptable system. To help answer this question, it may also be worthwhile to conduct a detailed analysis of the use of InRoads by each stakeholder group in order to identify what data and reports are getting the highest and lowest use.
- ★ **Build and expand research and evaluation functions (*under way*).** Increase the district’s capacity and the number of staffers with analytical skill sets to enable HCPSS to develop more sophisticated methods for using data and systems, and build the district’s ability to perform both diagnostic and predictive analytics. One note: The Geographic Information System GIS analyst in the building operations department is already undertaking sophisticated and creative analytics in his current role.
- ★ **Increase the number of staff on the budget team and build out a dedicated team with high-level technical and system skills.** As noted above, the budget office is already understaffed, given its level of responsibility. If it is to move into a more strategic role, additional staffing will be necessary. At the same time, most of the technical knowledge of data and systems in HCPSS is housed in one person, who is performing at (or beyond) capacity and who fields all of the requests for student and school-level data from across the district. Adding to this team would help address bottlenecks on data requests, allow for knowledge transfer, and free up time for more system building and improvement.

Long-term Actions

- ★ **Strengthen the accountability built into the performance management processes.** Develop ways to follow up throughout the year on school progress toward SIP goals. Begin to alter the output-based

targets (percent participating) to outcome targets (percent succeeding). Create a regular central office performance management process.

- ★ **Restructure budgeting process.** Consider more strategic approaches to budget creation that encourage more critical thinking about current resource allocation decisions. Develop systems to ensure that data are available on a cost-per-student basis, and that program outcomes and evaluations are formally integrated into the budget process.

Additional High-impact Items

Near-term Actions

- **Ensure clear responsibility for ASPEN (*under way*).** Given the centrality of this system, it is crucial that a staff member with authority and analytic capacity be assigned responsibility for management and monitoring of the data and the system.
- **Innovate with new, better, and more regular reports to the board (*under way*).** The board is ready for more data reporting, but the ideal formula for staff–board communications has not yet been achieved. Continue developing different products to provide ongoing information and results to the board. For example, HCPSS staff should seek to move from providing a complete set of undigested data to providing critical but analyzed data for decision making. Reports should orient board members to what is important, and provide explicit connections from the data to district targets and strategic goals. Finally, whenever possible, staff should include decision rules, assumptions, pros and cons of recommendations, and alternative scenarios in major proposals and recommendations.
- **Recommit to following the established method for data requests from the board to HCPSS staff.** To guard against haphazard requests to staff members, board members are now directed to one single point of contact, who is responsible for funneling data requests to the right staff members and monitoring the quality of responses. This is already an established and communicated process but would benefit from a revisiting and a recommitment by both board members and staff to ensure it is followed.
- **Consider a facilitated discussion about data use and offering data training for the board to allow them to look under the hood at data and systems.** Board members would benefit from an active working group conversation to better understand what it means to use data strategically for district operations and governance. They would also benefit from an overview of the various aspects of HCPSS data and analysis, so that they can better understand the feasibility of their data requests and become more comfortable with some of the key decisions made during complex analyses.
- **Address the multiple login and password issue raised by principals.** Reduce frustration and save time by streamlining access to systems. Enabling users, especially principals, to login with one username and password would drive buy-in from school leadership.

Long-term Actions

- **Continue to consolidate data into one central data system as much as possible.** For example, TIENET is in the process of being integrated into ASPEN, which will help ensure that these data are available in a more timely manner. It is worthwhile to consider whether other systems can also be integrated into one system.

Conclusion

Howard County Public School System is a top-performing district, and it has clear reasons to take pride in its accomplishments. At the same time, there is an opportunity to consider the ways in which it could do better and to perform with higher levels of quality and effectiveness, particularly in how it uses and consumes data to drive decision making. By considering how the organization can use data more strategically, HCPSS has the opportunity and, most importantly, the ability to build upon its successes to deliver value to all of its students.

Appendix A: Data Use Analysis

A1: Methodology

The Strategic Use of Data Rubric

To evaluate the use of data in HCPSS, we used SDP’s Strategic Use of Data Rubric, a tool developed to facilitate structured conversations around the use of data and analysis within education agencies (see end of Appendix A for full version of rubric).

The Strategic Use of Data Rubric is intended to illustrate what effective data use at the system level could look like. The rubric is designed to guide the discussion and assessment of an organization’s use of data across four main categories: major initiatives and programs, performance management, budget, and governance. Within each category, the rubric breaks out how data are incorporated into the overall life cycle of work in an agency: strategy and goal-setting, data use and quality, and evaluation and outcomes.

Each section is populated by a series of items that describes how data may be used, and these are set sequentially along a spectrum that spans from a “basic” level of data use, through “emerging” and “strong,” to the highest rating of “exemplary.” An illustrative example from the performance management category of the rubric is provided below.

Basic	Emerging	Strong	Exemplary
Data reside mostly on paper or “rogue” spreadsheets	Data reside in silos and are difficult to assemble; limited access granted to individuals	Data are somewhat easily linked, with access for multiple users	Data reside in a central database

While whole organizations can sometimes be identified with one of the four options within each item, data use may vary for different areas of the organization (e.g., school level vs. central office, different departments within the central office). Using the rubric as a basis for gathering evidence allows us to identify specific areas for improvement for the district and to highlight steps needed to move from the current modes to more strategic uses of data.

Using these methods as a guiding tool, SDP was able to identify strengths and areas of improvement in HCPSS’s use of data across the four major categories of the rubric. A high-level description of SDP’s baseline evaluation is outlined below.

A2: Overview of the Strengths and Areas of Improvement in the Use of Data

Major Initiatives and Programs

Howard County has some strong foundational components for data use in strategic planning and management of major initiatives, but, as there is a lack of an overall strategy to guide and organize the evaluation of initiatives, there is still much room to improve in this area.

There are some well-defined strengths. The InRoads data system has moved the district toward having more reliable **data that are housed centrally**. Within InRoads, the **appropriate data are centrally available in a timely manner, at the correct level, and are generally accurate**. There are, however, some notable exceptions that have arisen regarding the accuracy and timeliness of data. Finally, even with the centralization of InRoads, staff must also rely upon multiple other systems and data sources to fully manage and monitor their work, which has meant that **some data are siloed, difficult to assemble, and sometimes scattered among schools**.

The SIP provides a **known and accepted set of targets that inform and align most initiatives at the school level, with targets and goals that are connected to operations and outputs**. The SIP has a clear structure, a defined process for creation, and has been widely adopted across the district. The School Improvement Planning Handbook (2012–2013) describes:

The School Improvement Plan (SIP) provides strategic direction for raising student achievement. Guided by the school system’s mission, goals, and school improvement targets, the SIP documents the school’s specific objectives and strategies. The SIP then becomes a guidepost for aligning resources; driving instruction, assessment, and data analysis; and planning professional learning for staff. The SIP is a living document developed collaboratively among stakeholders and shared with the school community through an SIP snapshot on the school’s website.

Targets are calculated with a clear process outlined in the SIP TargetSetting Manual 2012, although a number of these targets are not generated by HCPSS analysis of what is realistic and appropriate, but are provided per state requirements. A cross-functional team at each school, the school improvement team, meets regularly to provide input and develop these plans before the beginning of the school year. These teams make sure that **progress is actively monitored, although they largely focus on outputs not outcomes**. In 2012, the SIP process went online, with a web-accessible template that can be monitored and updated in real time. (Note: Specific points of interest and key observations about the SIP are reported in the following section on performance management.)

The district as a whole, however, is lacking a clear strategic plan that can drive system priorities. As one departmental leader stated, “There is one piece missing: an overall strategic plan. I have a strategic plan for my area, but there is no strategic plan for me to align [my department]’s work to.” As a result, the central office does not have its own system of strategic planning and target setting similar to the SIP process, and **major initiatives are superficially aligned with targets and are introduced with goals that are not fully informed by analysis**.

Finally, the district lacks internal evaluation capacity. Program evaluation has been understaffed, rarely undertaken, and not integrated into overall district operations. **Similar programs are not compared in terms of value to student outcomes**, and there is **little attention on results from prior programs**. The result is that **at both central and school levels, evaluations often lack measurable outcomes and are infrequently used to monitor progress toward goals**.

Performance Management

Our interviews and document review suggest that HCPSS has a relatively strong performance management system for schools. At the school level, **targets are input- and outcome-based, and are generally consistent**. As described in the section above, the SIP process has made the **target-setting process for schools, developed with participation by multiple owners, generally clear, and targets and goals are connected to operations and output**. These **school-level targets are used to monitor progress and understand challenges to reach goals**.

The situation is much different for central office departments. Overall, **central office target-setting processes are unclear, with some targets unrealistic, not measurable, or only input-based.** This is partly the result of the lack of a clear strategic plan for the district, as noted above. While schools can be directly measured against Goals 1 and 2 in the BTE, these goals are typically less applicable at the departmental level. Finally, some variation in access to and the quality of data hampers the district's ability to adequately measure performance outcomes both at the school level and across departments.

Budgeting

Outcomes and nonfinancial data do not play a major role in the current budgeting process. Given the extremely small size of the current budget department, the district has shown an impressive ability to manage the budget and produce a reliable budget document. The district budget process is based on staffing norms and standard per-student distributions for schools. For central departments, the budgeting process begins by rolling over prior year positions and spending with increases for inflation or rising salaries. Incremental additions or cuts are then made from this base. This is a classic example of norm-based, incremental budgeting used by many large districts. The budget is produced through a clear, established process that is well understood by departments. The budgeting process is strengthened because **spending reviews are held regularly**, and the process includes some **information exchange between central offices and schools and departments.** Finally, Howard County's solid finances help to ensure that there is **little variation in budget allocations over time**, which can enable more effective long-term planning.

However, HCPSS's system of budgeting and financial planning leaves little room for thinking about alternative ways of allocating resources. It is a process **based on previous year expenditures, with an increment**, and is **focused on financial management, not the agency's educational strategy.** As one financial leader explained, "once we look at [the cost of] our ongoing programs that have a following year commitment, we decide what we think we can afford in terms of a salary settlement with employee groups. Only then can we look at the crumbs left over for other new programs or initiatives." Moreover, there is little use of any type of rigorous evaluation process in financial reviews, with **few to no attempts made to evaluate relative impacts of budget proposals** and a lack of instances where **resources between programs and initiatives are compared.** Finally, **financial reviews are not linked to evaluations of departmental outcomes.**

Governance

Board members cite a strong desire to receive information from HCPSS staff, note that they would welcome the opportunity to understand this data more fully, and in general, **press for more data to answer follow-up questions.** HCPSS staff members, particularly starting with the 2012–13 school year, generally provide **policy recommendations with sufficient analytic backup**, and are increasingly **prepared to answer most relevant or straightforward questions and further questions if posed.** Because the board is increasingly **open to receiving different types of data that are relevant to policy recommendations**, HCPSS staffers are also improving in **presenting thorough backup analyses that provide additional information to be used for decision making.** However, board members cited historical instances where **staffers were only prepared to answer questions that justified recommendations** and are less apt to discuss second- and third-order investigations of the evidence. This has also begun to change in the current school year.

While the board **regularly examines data**, it is hindered in its strategic data use because it **doesn't often use data to plan or set goals.** Without a **clear strategy or trajectory of desired outcomes** that can be used by the board as a governance structure, **most decisions currently made by the board are not informed by fact-based outcomes.** Further, without the clarity that could come from a concrete strategic plan, the board does not always know what data would be most relevant to use for evaluation and decision making, and sometimes **asks staff for data that are difficult to collect, unnecessary or irrelevant.**

Major Initiatives

	Basic →	Emerging →	Strong →	Exemplary →
Strategy/ Goal-Setting	<ul style="list-style-type: none"> • If strategic plan exists, fails to inform major initiatives • Major initiatives not aligned with strategy • Major initiatives are introduced without goals or implementation • Targets and Goals non-existent. No effort to eliminate or rationalize old initiatives • Limited understanding of current initiatives. No complete list of initiatives in one place. No effort to avoid duplication across programs 	<ul style="list-style-type: none"> • Strategic plan informs some major initiatives • Major initiatives superficially aligned with strategy • Major initiatives are introduced with goals and implementation, but goals not informed by analysis, nor aligned with strategic plan • Targets and Goal exist but not connected to implementation, operations outputs or outcomes • Some understanding of current efforts. Some effort to avoid duplication across programs 	<ul style="list-style-type: none"> • Strategic plan informs most major initiatives • Major initiatives significantly aligned with strategy • Major initiatives introduced with goals, targets, and timelines all aligned with the strategic plan • Goals established from trend data and research • Targets and goals exist and connected to implementation, operations, outputs and outcomes • Significant understanding of current efforts. Efforts exist to coordinate programs and avoid duplication 	<ul style="list-style-type: none"> • Strategic plan informs all major initiatives • Major initiatives aligned tightly with strategy; alignment understood well by agency • Major initiatives introduced with goals, targets, timelines, responsibilities, and dependencies all aligned with the strategic plan • Goals established from trend data, research, and predictive analytics. • Targets and goals exist and connected to implementation, operations, outputs, and outcomes. Goals both challenging and realistic • Deep understanding of current efforts. New projects not authorized without assessing current initiatives. No duplication across programs • Limited number of major initiatives
Data Use and Quality	<ul style="list-style-type: none"> • Little analysis of student data determines program adoption decisions and program priorities • Unaware of relevant research • Data not housed centrally; some data not housed at all • Similar programs not compared in terms of value to student outcomes • No attention on results from prior programs • No monitoring of progress 	<ul style="list-style-type: none"> • Some analysis of student data used to determine program adoption decisions and program priorities • Aware of relevant research, but not used to make decisions • Some data housed centrally, data often unreliable • Similar programs superficially compared in terms of value to student outcomes • Little attention on results from prior programs • Little monitoring of progress 	<ul style="list-style-type: none"> • Careful analysis of student data determines program adoption decisions and program priorities • Aware of relevant research and research used to make decisions • Most data housed centrally and often reliable, but baseline (pre-program) data not collected • Similar programs compared with some depth in terms of value to student outcomes • Some attention on results from prior programs that were evaluated with pre-established criteria • Monitoring of progress largely focused on implementation, but not measurable outcomes 	<ul style="list-style-type: none"> • Rigorous, comparative analyses and predictive analytics drive program adoption decisions and program priorities • Relevant research used to conduct further internal research that informs and evaluates after pertinent information collected • All data housed centrally, and available, including baseline data • Similar programs compared in terms of impact and cost-effectiveness • High attention on results that use data from prior programs, and were evaluated with rigor and explicit pre-established criteria • Monitoring of progress includes predictive analytics to anticipate progress and adjust tactics
Evaluation and Outcomes	<ul style="list-style-type: none"> • No evaluation plans exist • Outcome evaluation not considered in decisions for continuation, expansion or closure • No leadership decisions based on evaluation • No monitoring of processes • Closure decisions made erratically due to politics, shifting priorities, or immediate resource needs (i.e., budget crises) 	<ul style="list-style-type: none"> • Some evaluation plans exist, often created after start of program • Outcome evaluations occasionally influence decisions for continuation, expansion, or closure • Leadership decisions based on evaluation results often support decisions already made by leadership • Occasional monitoring of process • Closure decisions rarely based on results; more often politics, shifting priorities, or immediate resource needs (i.e., budget crises) 	<ul style="list-style-type: none"> • Many evaluation plans exist before start of program. Evaluations explicit and moderately strong • Outcome evaluations often influence closure or expansion decisions • Decisions based on evaluation results may not support decisions already made by leadership • Formal monitoring of process against goals, targets, and timelines established at program launch • Closure decisions often based on results; sometimes politics, shifting priorities, or immediate resource needs (i.e., budget crises) 	<ul style="list-style-type: none"> • Evaluation plans exist for all major initiatives. Evaluations are explicit (with strong designs, including randomization) to determine initiatives' impact and next steps • Outcome evaluations always influence closure or expansion decisions. All programs use sunset clauses to allow program expansion to be evaluated • Evaluation results always inform leadership decisions • Formal monitoring of process against goals, targets, and timelines that examine different scenarios to alter program to increase impact, lower cost, or respond to change • Closure decisions always based on results

Performance Management

	Basic →	Emerging →	Strong →	Exemplary →
Strategy/ Goal-Setting	<ul style="list-style-type: none"> Few, if any, targets exist for schools, departments, or organization as a whole. Targets that exist not based on data analysis. Target setting process not aligned with strategic plan and unclear Owners do not participate in target setting process. Targets not presented to staff or leadership in agency 	<ul style="list-style-type: none"> Targets exist, but are unrealistic, immeasurable, or only input-based (i.e. # of meetings held) Targets not consistent and even contradictory across levels (i.e., all schools required to raise achievement by 2 points per year while agency target is 5 points per year) Target setting process unclear Owners do not participate in target setting process. Targets not taken seriously by staff or leadership 	<ul style="list-style-type: none"> Targets that exist are both input- and outcome-based (j.e. % of students at proficiency, % of students graduating within 4-years) but not always realistic and may be set too low Targets generally consistent across levels and cascade from the system level. Target setting process generally clear Owners participate in target-setting process, and are invested in meeting goals 	<ul style="list-style-type: none"> Targets exist and are S.M.A.R.T. (Specific, Measurable, Attainable, Relevant, Time-Bound) targets set across the agency, departments, and schools Targets consistent throughout levels of organization and function in cascading manner. A "Balanced scorecard" is used to set targets (i.e., targets incorporate a diverse set of measures that may include student achievement, finance, operations, and human capital data) Target setting process clear Owners participate in target-setting process with robust fact base. Meeting targets considered critical by staff and leadership
Data Use and Quality	<ul style="list-style-type: none"> Appropriate data not available Available data often inaccurate or unavailable Inconsistent data from different sources provides different answers for same question Data resides mostly on paper or "rogue" spreadsheets 	<ul style="list-style-type: none"> Some appropriate data available, not in timely manner or at correct level (i.e., school-level instead of student-level) Available data sometimes inaccurate or unavailable Inconsistent data from different sources provide different answers for same question Data reside in silos and difficult to assemble. Limited access granted to few individuals 	<ul style="list-style-type: none"> Appropriate data generally available in timely manner, at correct level, with appropriate tools to manipulate data Available data generally accurate Data collected through different sources and staff regularly analyzes data. Data gives generally consistent answers for same question Data is somewhat easily linked, provides multiple users access 	<ul style="list-style-type: none"> Appropriate data always available in real time, at multiple levels, with ability to "cut" data multiple ways using appropriate tools to manipulate data Available data are predominantly accurate Data collected, stored and reported via central database. Provides multiple users consistent answers for same question Data reside in central database
Evaluation and Outcomes	<ul style="list-style-type: none"> Evaluations for individual(s)/ departments not based on clear expectations or measurable outcomes No performance management targets exist to monitor employee, school or department progress towards goal(s) If target monitoring exists the process is very unclear No Performance outcome information made public Unclear accountability to meet targets 	<ul style="list-style-type: none"> Evaluations for individual(s)/departments based on some expectations, but lack measurable outcomes Infrequent and irregular performance management targets exist to monitor employee, school or department progress towards goal(s) Target monitoring unclear; leaders know they are off track, but cannot articulate why Little appropriate performance outcome information made public Target monitoring exists 	<ul style="list-style-type: none"> Evaluations for individual (s)/ departments based on expectations and measurable outcomes(e.g. student achievement, human capital, budget, and operations data) Performance management targets exist for repeated tasks with somewhat frequent review of employee, school or department progress towards goal(s) Target monitoring is clear and includes initiatives to understand challenges to reach goals,(i.e., root cause analysis and action planning) Some appropriate performance outcome information made public, but indigestible Target monitoring is basis for management conversations 	<ul style="list-style-type: none"> Evaluations for individual(s)/departments based on clearly defined expectations and measurable outcomes from student achievement, human capital, budget and operational data Performance management targets exist for regular and consistent process to review employees, departments, and school progress towards goal(s) based on rigorous analysis Target monitoring clear, includes root cause analysis and action planning informed by sophisticated data analysis All appropriate performance outcome info made public and is digestible Information Includes review and action-planning for interdepartmental and department/school dependencies Target monitoring is basis for management conversations. All senior leadership participate actively in review of progress toward targets

Budget

	Basic →	Emerging →	Strong →	Exemplary →
Strategy/ Goal-Setting	<ul style="list-style-type: none"> Yearly budget planning process based mostly on external timelines and previous year expenditures Financial planning not connected to strategy Little to no long term financial planning or resource alignment Line item additions and subtractions made ad hoc without fact base or reference to agency strategy Budget process involves only a few central office leaders Budget process understood only by a few central office leaders 	<ul style="list-style-type: none"> Yearly budget planning process based on previous year expenditures, perhaps with some increment Financial planning focused on financial management, not agency's educational strategy Some regular long term financial planning and resource alignment exists Line item additions and subtractions made with little reference to agency strategy but not ad hoc Budget process highly centralized Budget process understood only by central office 	<ul style="list-style-type: none"> Yearly budget planning process robust, with horizon greater than one year Regular financial planning exists and considers educational strategy Long term financial planning exists. Resource allocation based on educational strategy Line item additions and subtractions based on agency strategy Budget process includes some information exchange between central offices and schools/departments Budget process understood by central office and some schools/departments 	<ul style="list-style-type: none"> Budget planning process multi-year, driven by strategy Financial planning process has clear, public priorities aligned to agencies education strategy Long term financial planning exists. Considers multiple revenue scenarios with clear action plans (i.e., what's added or cut) for each scenario. Resource allocation based on educational strategy Line item additions aligned to strategy and considered together, not individually Budget includes open communication of information between central offices and schools/departments Budget process understood by central office and all schools/departments
Data Use and Quality	<ul style="list-style-type: none"> Budget requests made without evidence-based justification No attempts made to generate impact estimates for budget cuts or additions Program and policies enacted without consideration of costs or resource allocations Budget allocations determined through political pressure or personal relationships 	<ul style="list-style-type: none"> Budget requests made with evidence-based justification. However, evidence is internal and not benchmarked against best practices No attempts are made to evaluate relative impacts of individual budget proposals "Prioritized" or special budget allocations drive most program funding Budget allocations rarely compare resources between programs and initiatives 	<ul style="list-style-type: none"> Budget requests made with evidence-based justifications, using internal and external benchmarking data Impact estimates and justifications of individual budget proposals always provided An established budgeting process rooted in a robust fact base drives decisions to fund programs and departments Budget allocations and required resources determined through fact-based analysis to allocate resources for programs and departments 	<ul style="list-style-type: none"> Budget requests required and made with robust, evidence-based justifications Relative "return on investment" of requests considered and used to prioritize funding Formal budgeting process ranks initiatives in terms of relative importance Budget allocations and required resources determined through fact-based analysis to allocate resources for programs and departments. Required resources explicitly budgeted and appropriately resourced via formal process
Evaluation and Outcomes	<ul style="list-style-type: none"> Departments not held accountable for expenditures nor outcomes There is no regular review process for spending Financial reviews and reviews of departmental outcomes are not linked No public criteria to evaluate budget requests Large swings exists in budget allocations over time Small resource changes cause crises in the system 	<ul style="list-style-type: none"> Department seldom held accountable for expenditures or outcomes Spending review process held sporadically Financial reviews and reviews of departmental outcomes are somewhat linked Public criteria to evaluate budget requests unclear Wide variation exists in budget allocations over time 	<ul style="list-style-type: none"> Departments held accountable for both expenditures and outcomes – though the connection between the two is left implicit Spending review processes held regularly Financial reviews are often linked to departmental outcomes and directly impact budgeting decisions made by both department heads and senior leadership Public can access clear decision-making process to include or exclude budget requests Little variation exists in budget allocations over time 	<ul style="list-style-type: none"> Departments held accountable for both expenditures and outcomes and clear connections are made between the two Spending is periodically reviewed using departmental budgets with sophisticated financial analyses (e.g., zero-based budgeting or activity-based costing techniques) Financial reviews are always linked to departmental outcomes and directly impact budgeting decisions made by both department heads and senior leadership Clear public criteria to evaluate budget requests Funding strategy experiences little variation over time not simply due to standard incremental budget increases done without program evaluation

Governance

	Basic →	Emerging →	Strong →	Exemplary →
Strategy/ Goal-Setting	<ul style="list-style-type: none"> Governing body has neither a clear strategy, nor trajectory of desired outcomes No outcomes or goals anticipated Policy recommendations unclear with little or no analytic backup 	<ul style="list-style-type: none"> Governing body has somewhat clear strategy and/or trajectory of desired outcomes Strategy seldom adhered to and likely to be a series of relatively unrelated initiatives Desired outcomes and goals of agency are unrealistic (e.g., 100% graduation rate in three years) or vague (e.g., improved graduation rate) and not reviewed by governing bod Policy recommendations unclear with insufficient analytic backup 	<ul style="list-style-type: none"> Governing body has clear Strategy and established set of desired outcomes Strategy includes some alignment between initiatives, but is not always adhered to Desired outcomes and goals of agency are ambitious, realistic and clear. However, not reviewed by governing body through a set process Policy recommendations are clear with sufficient analytic backup 	<ul style="list-style-type: none"> Governing body has both clear strategy and established set of desired outcomes measured against a "balanced scorecard" or dashboard of metrics Strategy and outcomes drive governing body conversations Desired outcomes and goals of agency are ambitious, realistic, and clear. Include both outcome and process metrics. Governing body adheres to regular process to review progress Policy recommendations and presentations to governing body clear, analytically sophisticated, and data rich Targets and goals are realistic, and challenging
Data Use and Quality	<ul style="list-style-type: none"> Governing body does not examine data or analysis to plan or set goals Governing body routinely asks for difficult to collect, unnecessary, or irrelevant data Governing body unable to identify type of data relevant for policy issues Staff unable to answer relevant, straightforward questions to justify recommendations. 	<ul style="list-style-type: none"> Governing body examines data and analysis, but not to plan or set goals Governing body often asks for difficult to collect, unnecessary, or irrelevant data Backup analyses often insufficient relative to import of the question under consideration Staff only prepared to answer relevant, straightforward questions to justify recommendations 	<ul style="list-style-type: none"> Governing body examines data and analysis and links it to planning /goal-setting Governing body generally presses for more data to answer follow-up questions and are open to receive different data if they are relevant to policy recommendations Backup analyses thorough and provide additional information that improves decision-making Staff prepared to answer most relevant or straight forward questions about data 	<ul style="list-style-type: none"> Governing body examines and seeks insightful data and analysis to plan and goal set. The body uses this information to track progress and identify opportunities to make changes Governing body has relevant expertise to understand different types of data presented Members can distinguish when more data are needed and when more data are not needed Staff prepared to answer second and third order questions about data
Evaluation and Outcomes	<ul style="list-style-type: none"> No performance plan or review process exists for governing body Decisions made by governing body not informed by fact-based outcomes. Most decisions made using prior beliefs or common assumptions 	<ul style="list-style-type: none"> Performance plan and review processes exist for governing body but evaluations mostly rely on personal opinions Decisions made by governing body sometimes informed by fact-based outcomes, although alternative approaches seldom considered 	<ul style="list-style-type: none"> Performance plan and review process exist for governing body but only once annually and not to monitor progress Decisions made by governing body mostly informed by data analysis. Alternatives solutions presented, but often not seriously considered 	<ul style="list-style-type: none"> Performance plan and review processes exist. Governing body has clearly defined, agreed upon performance plan with ongoing review process to monitor progress Decisions made by governing body led by data analysis. Decision-makers always evaluate outcomes compared to alternative solutions with variable scenarios

Appendix B: List of Interviewees and Documents Reviewed

HCPSS Leadership and Staff

(interviews conducted between July 2012 and January 2013)

- Rebecca Amani-Dove, Director of Communications (Jul 31, Jan 11)
- Mike Borkoski, Technology Officer (Jul 30)
- Ray Brown, Chief Operating Officer (Jul 30)
- Katrina Burton, Executive Director, Business and Finance (Jul 31)
- E. Grace Chesney, Chief Accountability Officer (Jan 10)
- Patty Daley, Executive Director of Special Education and Student Services (Jul 31)
- John DiPaula, Teacher Recruiting and Retention Manager (Jul 31)
- Clarissa Evans, Executive Director of School Improvement and Curricular Programs (Jul 31)
- Dr. Renee Foose, Superintendent (Jul 30, Jan 10)
- Joel Gallihue, Manager of School Planning (Jul 31)
- Kim Mahle, Human Resources Manager (Jul 31)
- Sue Mascaro, Chief of Staff (Jul 30, Jan 10)
- Dan Michaels, Administrative Director, Secondary (Jul 30)
- Marion Miller, Administrative Director, Elementary (Jul 30)
- Andrew Raith, Director of Systems Development (Sept 4)
- Ken Roey, Executive Director, Facilities Planning & Management (Jul 30, Jan 11)
- William Ryan, Executive Director of School Improvement and Administration (Jul 30)
- Cynthia Schulmeyer, Coordinator, School Psychology and Instructional Intervention (Jul 31)
- David Shaw, Manager, Technology Operations (Jul 30)
- Woody Swinson, Budget Director (Jul 31)
- Kami Wagner, Resource Counselor (Jul 31)
- Caroline Walker, Coordinator, Academic Intervention and Title I (Jul 31)
- Linda Wise, Chief Academic Officer (Jul 30, Jan 10)

Board Members

- Frank Aquino, Board Member (Sept 27)
- Ann De Lacy, Board Member (Jan 14)
- Allen Dyer, Former Board Member (Jan 15)
- Sandra French, Vice Chairman, Board (Sept 27)
- Ellen Giles, Board Member (December 5)
- Brian Meshkin, Board Member (Jan 14)
- Janet Siddiqui, Board Member (Jan 14)
- Cynthia Vaillancourt, Board Member (Dec 6)

Principal Focus Group (Sept 27)

- Shiney John, Oakland Mills Middle School
- Cher Jones, Dunloggin Middle School
- Marcy Leonard, Hammond High School
- James LeMon, Wilde Lake High School
- Ron Morris, Stevens Forest Elementary School
- Scott Ruehl, Mt. Hebron High School
- Troy Todd, Running Brook Elementary School
- Sue Webster, Waterloo Elementary School

Howard County Public School System Documents Included in Review

2011 Bridge to Excellence Annual Report. (2011).

Approval of attendance area adjustment plans. (November 15, 2012). Presentation to the Board of Education.

Becoming a world-class leader: Leading through transition. (June 2012).

2011 Advanced placement participation and performance. (October 20, 2011). Board meeting agenda item.

Bridge to Excellence Progress Report—Goal 1. (Fall 2011).

Bridge to Excellence Progress Report—Goal 2. (October 20, 2011).

Results of the 2011 administration of the Stanford Achievement Test tenth edition (SAT 10), grade 2. (August 18, 2011). Board meeting agenda item.

Bridge to Excellence Annual Update. (November 22, 2011).

Comprehensive Annual Financial Report. (June 30, 2011).

An evaluation of academic intervention programs in the Howard County Public School System (HCPSS): 2006–2008 student cohorts.

An evaluation of the cultural proficiency program in the Howard County Public School System (HCPSS)—Year Two.

HCPSS data protocol. (May 18, 2009)

HCPSS overview of CFIP. (January 25, 2012).

The impact of student stability/mobility on MSA reading and mathematics performance among Howard County Public School System students.

Minutes of the Board of Education of Howard County. (November 15, 2012).

Operating budget financial report as of September 30, 2012. (November 1, 2012). Presentation to the Board of Education.

Operating budget financial report as of October 31, 2012. (December 3, 2012). Presentation to the Board of Education.

Policy 2020: Policy development and adoption. (January 26, 2012).

Popular Annual Financial Report. (June 30, 2011).

Proposed 2013–2014 academic calendar. (November 15, 2012). Presentation to the Board of Education

School Funds. (June 30, 2011).

School improvement planning handbook (2012–2013). (2012).

School improvement plans—all schools alpha (2011–2012). (July 2012).

School improvement targets—implementation manual for school improvement teams (2012–2013). (August 2012).

Superintendent’s Entry Plan (2012–2013). (June 11, 2012).

Additional Document Reviewed

Broadwater, Jennifer. (August 2010). From farmland to front of the pack in 50 years: How Howard County Public Schools earned an international reputation as an education powerhouse. *Howard Magazine, August 6, 2010.*